NOTES ON PRACTICE.

Intestine - Func & Organic diseases.

Func { Dyspepsia / Neuralgia } acco inflammatory & organic changes

Intestinal Dyspepsia - A condition of continuously impaired digestion in the intestines.

Causes - Gastric dyspepsia & all its causes. Affections of the liver, Diseases of the Pancreas &c.

Symptoms - Indigestion begins sometime after taking the meal. The distress or pain referred to a point lower than the gastric area The flatulence is intestinal

The bowels are more constantly affected being sluggish or alternating. Stools may contain mucous

General health does not suffer so severely as in stomach dyspepsia

Course - Is often a very long one & the disease is obstinate to treatment because the surface affected is very large & it is less accessable to treatment

SYLLABUS OF NOTES

FROM

LECTURES

ON THE

THEORY AND PRACTICE OF MEDICINE

DELIVERED BEFORE THE STUDENTS OF THE UNIVERSITY OF PENNSYLVANIA,

BY

WILLIAM PEPPER, M. D., LL. D.

Provost, and Professor of the Theory and Practice of Medicine, Professor of Clinical Medicine, Editor of a System of Medicine, etc., etc.

PREPARED (BY SPECIAL PERMISSION) FOR THE USE OF STUDENTS IN THE UNIVERSITY

BY

CUTHBERT BOWEN, B. A. DUNELM.

Matriculate of London University. Member of the H. C. Wood Medical Society. One of the Assistants to the Demonstrator of Anatomy, Medical Department University of Pa.

Part 2

Revised Edition, with an Appendix and Chart of Kidney-Diseases.

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PREFACE.

This little work being simply a reproduction of a student's private note book, which through the kind courtesy of Dr. Pepper he has received permission to submit to his fellow students in a printed form, it must be understood that for all inaccuracies and misrepresentations of the lecturer's actual statements which may be found therein, the compiler alone is directly responsible.

CUTHBERT BOWEN.

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Stomach | acute / chronic | Functional / organic

- Congestion
- Gastritis | Catarrhal / Phlegmonous / Ulcerative & Rheumatic
- Ulceration
- Cancer
- Dilatation
- Pyloric Stenosis or insufficiency
- Dyspepsia

are except dyspepsia are anatomical conditions

Dyspepsia is functional disparagement of digestion

PART II.

DISEASES OF THE DIGESTIVE SYSTEM.

(*Continued.*)

IV. THE STOMACH.

The **Stomach** is subject to numerous affections.

I. **Gastralgia**, or Neuralgia of the Stomach.

Causes. We have a **Predisposition** of the System and Nerves which is brought about by all mal-hygienic conditions and **impaired vitality.** It is found in anæmic and broken-down artisans, school teachers, merchants, etc. **Dietetic errors** are very prominent. The rapid swallowing of unchewed food. Food which is too highly seasoned, and too strong or poorly cooked. Certain **special substances**, as Tobacco, Alcohol, Tea and Coffee, when used in excess.

Symptoms. Like other Neuralgias, it is a **paroxysmal** affection. Attacks vary in frequency and violence. They may occur every day, once after each meal. They may be moderate or agonizing. They may last half an hour or many hours. The **pains** vary in their seat. Usually they are at the pit of the Stomach, and extend round through the Hypochondriac Zone—more to the left than to the right. Sometimes they radiate downwards, and are associated with Neuralgia of the Intestine. They may extend upwards to the Œsophagus, and along the Præcordia up to the throat; but *they do not extend to the Brachial Plexus and down the arms.* When the Stomach is empty, the pain may be relieved by taking food. This is not always so, however. The **Epigastrium** is **not tender**, and the pain is frequently relieved by pressure on it. Gouty subjects who are well fed and even plethoric may suffer from it. Like Neuralgia, it is often associated with the **Gouty Vice.** Along with Gastralgia we may have Dyspepsia associated. Again, the **Appetite** may be very good, or even craving. It is a morbid desire which can scarcely be called hunger. Sometime we find a craving for unnatural food, which is termed **Pica.**

The **Diagnosis** is very important. We must exclude—1. *Organic Disease.* In the early stage of Organic Disease, Gastralgia may be only a Symptom. If it rebelliously resists treatment, we should look out for malignant growths in the walls of the Stomach. 2. *Gastric Ulcer.* Here the pain is caused by eating. Hot, stimulating articles of food make the pain worse, and so does Pressure. There is marked Tenderness. The pain does not radiate so much. Sometimes we have Vomiting and even Hæmatemesis. The Vomiting here relieves the pain. 3. *Angina Pectoris.* We do have pain down the arm and numbness, but the attacks have no relation to Eating. There is a horrible sense of impending death. 4. *Intercostal Neuralgia* may be distinguished by carefully tracing the course of the nerves.

5. The *Pancreas* is frequently the seat of Colic, Catarrh, etc., accompanied with attacks of paroxysmal pain, but these have no reference to ingestion of food.

Prognosis of Gastralgia, when purely functional, is favorable so far as life is concerned, but it is obstinate and hard to cure.

Treatment is—1. Hygienic. 2. That of the morbid condition; and 3. Of the attack. I. The disturbing cause must be carefully removed, whether the use of Alcohol or Tobacco, Vice in diet, Want of Sleep, Nervous debility, etc. II. We must remember that, the stomach being affected, whatever enters it must be carefully examined. Many patients would be better for the use of Cod Liver Oil, Iron, etc., but we are checked by the fear of doing violence to the stomach. Some remedies are well borne, *e. g.*, Arsenic, at first in small doses, and then gradually increased. Preferable is the Solution of the Arsenite of Potassium, well diluted, given after meals; or we may give Arsenite of Iron. The following is a serviceable combination:

℞ Quiniæ Bromid. gr. xxx,
Acidi Arseniosi gr. ss to i,
Ext. Belladonnæ gr. iii,
Pil. Ferri Carb. gr. xxx,
Ext. Nucis Vomicæ gr. v.
M. ft. Pil. xxx. One after food.

Sub-Nitrate of Bismuth acts favorably on Mucous Membranes. It is a mild Antacid. It should be given one hour or one and a half hours after food, in doses of gr. x–xv, three times a day. Valerianate of Zinc is useful. We may use a Combination of Hydrocyanic Acid and Valerianate of Ammonium, or some other preparation of Valerian.

℞ Acidi Hydrocyanici Dil. fʒi,
Ext. Val. Ammon. q. s. ad. fʒiv.
Mft. Sign.: fʒi ter die, p. c.

This is a grateful Stimulant and Sedative or Anæsthetic to the nerves of the Stomach. *Diet* is a matter of great consequence. There are no fixed rules. We may have to put the patient on a diet of Skimmed Milk and Lime Water. For cold water it is sometimes advisable to substitute hot, sipped slowly during meals. III. *Treatment of the Attack* consists in the administration of an Anodyne, as Chloroform in Gelatin Capsules; or we may require an Opiate, as Chlorodyne. A Solution of Morphia with Hydrocyanic Acid, or Cannabis Indica in Chloroform, is a carminative and powerful anti-spasmodic. Guard against Hypodermic injections of Morphia. Local Applications and Counter Irritants are useful in the interval and during an attack. They exert a derivative effect. The actual Cautery over the Epigastrium and over the posterior Spinal Nerves has broken up an obstinate Gastralgia. Chloroform Liniment around the Hypochondriac region is useful. During an attack warm applications may be made by means of a rubber bag. In incipient organic disease we **may** have Gastralgia, but it is a purely functional disease itself.

II. Catarrhal Gastritis is practically the only form of Gastritis which we recognize. In rare cases we may have a *phlegmonous* destruction of the coats. It occurs as an *Acute* or *Chronic* affection. It is difficult to draw the line between Catarrh of the Stomach and some forms of Dyspepsia. Catarrhal Inflammation, however, is a separate affection.

The **Acute** form is found in—1. Certain *Specific* Diseases, as Relapsing Fever, Yellow Fever, and Cholera. 2. In *Chronic* diseases, and Addison's Disease and Bright's.

Causes. The use of coarse, bad food, and particularly if **Dietetic Excess** is complicated by taking cold from **Exposure to Draughts** or

the sudden checking of perspiration. Every mucous membrane is liable to be attacked after fatigue or sudden exposure. Children are more sensitive than adults.

Morbid Anatomy. The mucous membrane is red and swollen. The Follicles are prominent, and there is an excess of Mucus and Secretions.

The **Symptoms** are Local and General.

I. *Local.* There is **Fullness**, distension, and Tenderness on Pressure. The **pain** may be severe, like Colic. **Fever** may be quite high. The **Pulse** is moderately rapid. **Nervous Symptoms** may be present, especially in children who are apt to have Convulsions. **Headache** is intense. The **Tongue** is red at the edges and coated. **Thirst** is extreme. **Vomiting** is frequent—first of the Contents of the Stomach, and then of Morbid Mucus. The Bowels are **costive**, or, if the Mucous Membrane of the Intestine is attacked, we then have **Diarrhœa**. The **Urine** is scanty, and often throws down a **brick-dust deposit.**

These attacks vary immensely in severity and acuteness. In children they may be so violent as to simulate brain trouble, and from this they shade down to common indigestion. With them may be associated Hepatitis, Jaundice and distress in the region of the Liver.

Diagnosis is very easy. The greatest difficulty is experienced with Children. We may dread Acute Fevers, as Scarlet Fever, etc., but inquiry as to the original cause and the great prominence of Gastric trouble dispels all doubt.

Treatment. The indications are very evident. Even where the violence of the case is not sufficient to make rest necessary, still insist upon it. Give no medicine by the mouth. It often aggravates the disease. Let the stomach rest. A mouthful of Carbonic Acid water, a spoonful of very hot water, arrow-root water, lime water and milk, a mouthful of beef tea, either hot or cold, may be very grateful; but if not, let the patient suck ice. Allow no liquid on the stomach when irritable. If the stomach is debilitated and not a drop of water even is retained, nutritious enemas are useful. Sometimes a teaspoonful of Champagne or Brandy or Seltzer water may be better kept down than purely pure bland articles. When convalescence begins, give very little food. There are Remedies calculated to relieve the congestion of the mucous membrane, as Calomel with Sub-nitrate of Bismuth or Sodæ Bicarb. Simply dust on the tongue Calomel, gr. $\frac{1}{8}$–$\frac{1}{12}$, every one or two hours. This may excite movement of the bowels. In very rare cases would Salivation arise from giving $\frac{1}{10}$ gr. every hour; not certainly till gr. iii, at least, had been taken, except in idiosyncracies. Other preparations of advantage are minute doses of Creasote, gtt. $\frac{1}{4}$–$\frac{1}{8}$, in Bicarbonate of Soda. Small doses of Nitrate of Silver in Acacia. If there is vomiting, omit these remedies and let the stomach rest. Give a suppository of Opium, gr. i, if there is persistent vomiting. *Externally*, mustard plasters, hot fomentations, and even blisters in severe cases, may be useful. After convalescence, we must exercise care in diet, and give some simple Tonic. This disease is not so common in an acute as in a mild form. There is a tendency to repetition in some patients which is truly remarkable. Some persons of gouty habits have explosions of gastritis in place of gouty manifestations. They may occur once every two weeks for eighteen or twenty years without any structural change in the stomach. Children may also have it. These, however, are exceptional cases. More generally we have a Subacute form which we consider under the head of Dyspepsia.

Dyspepsia *is the name given to a complex condition, attended with disorder of gastric digestion, without serious organic changes in the stomach.* It is only

Dyspepsia is a functional derangement of digestion

Dyspepsia may be acute or chronic

a Symptom. It is no more a disease than Dyspnœa. It is a symptom of general gastric disorder, hepatic derangement, etc. For convenience, however, we treat it as a separate entity. We divide it into **Atonic, Catarrhal, Nervous.**

Congestive

1. **Atonic** is where there is simply a lowered tone of the digestive function, weakness of the muscular coat of the organ, and impaired secretion. 2. In **Catarrhal** the coats are in a state of irritation. We have a morbid secretion, and too much mucus. The gastric juice does not contain its proper ingredients. This irritability may be severe or slight, but we use one term to include all states. **Nervous** is when there is impaired digestion, ~~but it is~~ associated with nervous symptoms.

Causes of dyspepsia are manifold. A great many are **constitutional.** Some have it by **inheritance.** Others have a strong **Gouty Diathesis,** and cannot digest certain classes of food. ~~Other constitutional causes result from **too rapid growth** taxing too much the vital powers.~~ Depressing **passion** may bring on dyspeptic symptoms. Also **overwork.** Other causes are **Dietetic.** Under this head we may mention **Rapid eating,** when the food is **not properly masticated, Alcohol** and **Tobacco. Poor circulation,** arising from occupations which necessitate Exposure. Want of proper **clothing.** The character of the individual determines the kind of dyspepsia.

Symptoms. 1. **Atonic.** The **appetite** is poor. After eating there is **distress and weight,** Fermentation and **flatulent distension** of the abdomen with gas. The **Tongue** is pale, flabby and lightly colored. The **Bowels** are sluggish. The **System is depressed.** Exertion tires, and there is Languor. ~~The **Extremities** are cool. The **Flesh** is soft, though it may be well maintained.~~ 2. In **Catarrhal** the **Appetite** is very variable. It may be lost entirely, be poor, or be craving, desire for food returning the moment the stomach is empty. **Food** causes distress and pain. The region is **sore** to the touch. There may be **little nausea** or **vomiting.** In some cases, however, there may be repeated vomiting. Where this is not present there is **hawking** of mucus, the pharynx presenting a sympathetic catarrhal inflammation, with **acid regurgitation** of mucus when the stomach is empty. This is termed "**Pyrosis.**" The **Bowels** vary. Usually they are sluggish; or if there is catarrh, there may be Diarrhœa. ~~Sometimes these two conditions alternate.~~ The **Tongue** is coated, but may be red. The patient is apt to be irritable, depressed in spirits and altered in temper. **Sleep** is disturbed with dreams or frequent waking. Insomnia is often due to this form of Dyspepsia. The heart may sympathize, and then there is **palpitation,** either constantly or in spells. **Nervous.** The **appetite** is poor, or may be voracious. The taking of food often gives relief. **Distress** comes on later, after digestion has finished, and continues till the next meal. **Gastralgia** is a frequent accompaniment. ~~There is no tenderness.~~ The **Bowels** ~~may be~~ constipated ~~or loose.~~ The **Tongue** may be red and clean, or even may be glazed. Such patients are morbidly **sensitive.** Light, Sounds and Smells make them irritable. They are prone to **melancholy** and morbid feelings about themselves and others. They are **anæmic** and debilitated. These reflex or sympathetic symptoms attain such a pitch that the patient seems hardly in his right mind. After the dyspepsia has been relieved nervous conditions may persist, and patients be found hypochondriacal.

Diagnosis. To discover the cause of the dyspepsia is the most difficult matter. To assign to the different associated functional disorders their proper place and importance gives rise to the most intricate problems. The

Dyspepsia is apt to be confounded with
I Chronic gastric catarrh, III Cirrosis of Liver
II Ulceration of Stomach IV Bright's Disease
III Cancer " "

Symptoms of all kinds of dyspepsia

- Distress or Pain (Gastralgia)
- Impaired appetite
- Nausea or Vomiting
- Flatulence & Belching
- Tongue coated (except in Atonic)
- Bowels sluggish or disordered
- Urine affected
- Nervous Symptoms

Causes of Dyspepsia are heredity. General feeble vitality. Family Chemistry. Gouty Vice. Improper feeding in early years. Eating too much. Not properly masticating food. Improper food. Much fruit. Liquids in excess. Irregularity of eating. Alcohol. Tobacco

Dyspepsia is often associated with diseases of other organs, as with Cirrosis of the Liver & with heart disease. with Kidney disease.

Where the blood is ~~weak~~ anemic & watery the digestion is weak & sensitive.

Symptoms - Atonic - a pale flabby tooth marked tongue not much coated. Appetite good. A sense of weight in pit of stomach after eating. Distension of abdomen due to flatus. Discharges of gas. Sense of heaviness & dullness after eating. Abdomen when pressed may be slightly painful. Bowels sluggish. Urine heavy & loaded. System not much nourished. tires easily.

Congestive & Catarrhal - Tongue heavily coated & red at edges or may be entirely red. Ways also be fissured. Appetite disordered. May be craving for substances which the patient knows does him harm. Eating is followed by distress with pains of a burning character, or a running pain along the abdomen. The food does not digest properly & hence acids form which cause pain & distress. There may be eruptions of food and mucous. Patient often vomits when he rises in the morning. Bowels may be sluggish or loose. Heart disordered. The circulation of brain may be affected causing Vertigo. Diffused neuralgic pains. Urine charged with deposits of urates & phosphates &c.

Nervous - here symptoms are nervous; with also symptoms about as in other forms. except that the bowels are constipated. Taking food causes relief & the patient feeling the worst when the stomach is empty. Pain is a common symptom causing Gastralgia and always coming on on an empty stomach.

Course - is very prolonged but disease is not fatal.

Diagnosis - Ascertain the type of dyspepsia by studying

the symptoms. Study the secretions of the stomach after this removed by syphon.
Diagnose from angina pectoris (which is neuralgia of the cardiac plexus of nerves) & from the passage of a gaze stomach when there is a neoplasm
Treatment - Remove the cause unless it is a very bad case. Be very careful about the use of purgatives. Make out a list of food for the patient. Learn in what his digestion fails. Study the variations in the patients bodily weight. Give sometimes for pain & flatulence. Dyspepsia is aggravated by taking a cold the word always going to the weak spot.
The medicines used are to chosen with care & caution because it goes at once to the affected organ. The medicine should be given in very small doses. In constipation open the stomach as much as possible - only using laxatives in over fed persons & where the liver is enlarged. Here the best saline purgatives are Sulph Sodae, Rochelle Salts &c., best given before breakfast hot. when the stomach is irritable if one do not suffice give another at bedtime but then give it cold.
In the atonic type with slow digestion can give prescription III & where there is great flatulence instead of

acid Phos. dil use either.
acid Muriatici Dil ℥ij ℥ij
" Nitric " ℥ij ℥ij
" Sulphuric " ℥ij ℥ij. ℥ij ℥ij.

or compound pills containing
℞ Quinine Sulph gr XXX
Pil. Ferri Carb. gr XXX
Ext. Nux Vom. gr V
Acid Arsenicos gr 1/3.
Ext Belladonnae gr iij
Divide into 30 pills.

or ℞ Acid Muriatic Dil
Sig Arsenical Chlo. ää ℥ij ℥ij.
Sig - 4 to 10 drops in H2O
after meals three times
Can put 4 fl. Ferri chlo in this
in this & then give 6 to 12 drops.

& in flatulence give with the meal some pain or 1½ hrs after meal can give an alkali viz
℞ Bis Subnit ℥ij
Pulv. Spain (Hawthorn) ℥ij
Divide into chartis XXIV

These conditions of mucous membrane require treatment
This condition is known by coated tongue, flatulence &c & are very dilute mineral acids do well in small doses often repeated, also salts of Aq. Oxalate of Zinc & Bismuth. Nitrated Silver is very good given on an empty stomach dose 1/12 to 1/16 grs in syrup diluted.

over

Prognosis cont.-
Study the condition of the stomach itself especially with respect to dilitation, because a dilated stomach is invariably connected with dyspepsia especially of the atonic types.

detection of the existence of Dyspepsia and its assignment to its proper class is easy. We must examine the environments of the patient for the cause. We may overlook the gastric trouble in treating the liver. The changes in the urine are significant. to determine from Gastric Trouble Bright's disease

The **Prognosis** should be hopeful.

Treatment should be—1. *Hygienic*. The patient must assist us. The life, dress and bathing must be adapted to the general system. Take care of the skin. Use cold sponging friction and rapid drying. 2. *Dietetic*. Extreme care must be taken of the digestive power and the needs of the system. We must study the effects of various articles of food. There are extreme varieties of digestive powers. Some require two meals per day; others three. Milk exclusively will do well in some cases; in others it must be entirely omitted. Partially digested foods, such as are to be had in the market, Peptonized and Pancreatized milk and meats are often well taken. 3. *Therapeutic*. We should restrict ourselves to drugs especially indicated. If there is want of Muscular Tone, Strychnia and Nux Vomica are useful. If there is simply want of appetite—

℞ Tinct. Nucis Vomica fʒii,
Tinct. Gentian. Com. q. s. ad fʒiii,
M. ft. fʒi ter die.

To this we may add, if there be acidity, Bicarbonate of Soda and Compound Infusion of Gentian, making it a six-ounce mixture. Where there is defective secretion use Nitric or Nitro-Muriatic Acid.

℞ Strychniæ gr. ½,
Acid. Muriatic dilut. fʒii,
Liquoris Pepsin q. s. ad fʒiv.

Mineral acids are particularly useful where the secretions are defective. They are Tonics and supply an essential element to the gastric juice. They are useful in Catarrhal Dyspepsia if the stomach is not too weak.

℞ Strychniæ gr. ½,
Quininæ Sulph. gr. xxxii,
Acidi. ~~Muriatici~~ dil. fʒi–ii, Phosphori fʒiv
Tinct. Cardamon Co. fʒss,
Aquæ q. s. ad fʒiv. Glycerine fʒfs.
M. ft. Signa.: fʒi,

Pepsin has a positive value in cases to which it is adapted. If the evacuations show a want of nitrogenous elements we may try it. It is a great mistake to put all dyspeptics on pepsin. Its prolonged use is irritating. It is prone to putrefaction itself. It may be given in the form of powder or solution in a compressed tablet or a capsule. Select a good preparation and give a moderate dose at first. There is a danger of disgusting patients. Here the taste is not blunted as in Typhoid Fever and Pneumonia. Carminatives are only to be used as accessories and where there is flatulence, but the cause must first be discovered. If it is excessive we may give something to prevent the formation of gas and to favor its absorption.

℞ Creasoti gtt. ~~xvi~~, ~~viij to x~~. ℞ Sodæ Bicarb. ʒij fʒfs.
Sodæ Bicarb. ʒiss, Creasoti gtt ij to viij.
Tinct. Lavandulæ fʒss, Mucil Acacia Sach
Aquæ q. s. ad. fʒiv, Tinct Gentian Comp fʒiij.
M. ft. S.: fʒi half an hour after meals. Aquam q. s. ad fʒiv.

Or we may give Creosote in powder with Bismuth, or Bismuth and Pepsin.

℞ Creasoti gtt. viii, Sig ʒij in H₂O, 2 hours
Bismuth. Sub-Nitratis, ʒij after meals
Pulv. Pepsin ~~aa~~ ʒi, (Boudy) gr xx
M. ft.: xx ~~x~~ Gelatin Capsules,
S.: One after meals.

Three doses may be given more than 3 times daily.
Creasoti & Carbolic Acid have an alterative action on the mucous membrane & prevent putrefaction

They have an alterative effect in catarrhal dyspepsia. Sometimes we must use drugs more permanent in action as Nitrate of Silver, gr. $\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{6}$, soon after meals. It is better to give it diluted when the stomach is empty. It may be combined with Extract of Nux Vomica, Quassia, or in irritability with Belladonna and Hyoscyamus. Sometimes we can give Quinina well diluted in small doses with a Mineral Acid. There are some cases where we must use more sedative treatment and where there is morbid sensibility of the mucous membrane, *e. g.*: Hydrocyanic Acid Dilute,

℞ Potassi Cyanid gr. iii,
Acid. Muriatic dil. fʒi,
Syrup Zingiber fʒss,
Aqua q. s. ad fʒiii,
M. ft. Sign.: fʒi, after meals.

Under the above head come Creasote, Chloroform, Subnitrate of Bismuth and Silver.

Ulceration of the Stomach occurs in different forms.

I. **Simple** or Perforated or Gastric Ulcer is a loss of a circumscribed portion of the mucous membrane of the stomach involving the deeper layers, and tending to perforate the wall. Hence, its name. There may be one or many. One may occur at a time, and when this has healed another come out. The size of the ulcer varies from a little finger nail up to a thumb nail. The form is round or oval; the edges are sharp cut, and do not shelve till the cicatrix begins to heal. The edges are nearly vertical. One may also go through the muscular coat, its base being formed by the subserous membrane. The edges are pale and there is no indication of active inflammation. We have a loss of substance from a loss of vitality. The position varies. Generally they are on the ~~posterior~~ wall less frequently on the ~~anterior~~. The ~~safest~~ place is posteriorly on the upper wall ~~for then the amount of escape through it from the stomach is limited, and~~ if it advances to inflammation, adhesions take place. ~~If it is on the front immediate and fatal peritonitis takes place.~~ They heal by cicatrization leaving a shallow smooth surface. No glands reappear.

Causes. Sex. It is more common in women. **Age.** It is more common in the young, generally occurring between the ages of eighteen and thirty. **Mal-nutrition.** It is not inflammatory. Some believe it proceeds from a Thrombus or an Embolus which causes the tissues to be cut off as a necrotic slough. It is preceded by a morbid and irritated state of the mucous membrane. From straining to vomit an Embolus is formed. These ulcers are generally found in tired, thin, pale shop girls and female servants, rarely in well-fed persons. **Dyspepsia** is a predisposing cause. It is hard to say when Dyspepsia ends and the ulcer begins.

Symptoms. Dyspepsia comes first, followed by **Pain** at the epigastrium which is apt to extend through to the back. In fact, it may only be complained of in the back. It may be moderate or severe. It may be brought on by eating, and last through the whole stage of acid digestion, and then pass away. It is **made worse by hot stimulating articles.** There is **tenderness** of the epigastrium worse in one spot, perhaps one-half an inch in diameter, and around it none. **Vomiting** is a very constant symptom and gives relief. This vomiting occurs soon after food is taken. The matters vomited are the partially digested food of previous meals and glary mucous acid in reaction. It is not rare to find a little fresh red blood streaking it, or we may have a teaspoonful. **Hemorrhage** is common. It may be slight and repeated, or there may suddenly be a pint. A quart has been vomited in a few minutes. The hemorrhage may cause death and the

To treat pain in dyspepsia give hydrocyanic acid which is very good. Can give it with Ether. Vol of Ammo. arsenic is also valuable especially when the pain occurs on an empty stomach it may be given with iron to. In very severe pain give no morphias, but aconite. Ether Vol of Ammo. N Cf. Chloroform &c.

Gastric Ulcer is a solution of the coats of the stomach extending to different depths & may perforate, & are not the result of inflammations.
The base of the ulcer shows only a feeble granulation process and little process of repair. It heals by contraction
A sudden stabbing may occur with pain, extension of abdomen, rising limbs & rapid pulse, this indicates peritonitis when death occurs in about 36 hrs.
Diagnose from
I Intestinal dyspepsia. pain into. D is not so great as in a gastric ulcer. & hemorrhage does not occur (except in girls during menstruation)
II Cancer of Stomach. Cancer occurs in old persons & more in the male than female & the symptoms of cancer come on more gradually & loss of flesh is not so rapid and the pain not so severe as in an ulcer & taking of food does not produce vomiting in cancer. The stomach in Cancer is often dilated and the bowels very constipated. hemorrhage in cancer is not so common as in ulcer & when it does occur the blood is black while in ulcer it is red.
III Pain vomiting of pregnancy
IV " " Hysteria
Prog. Good if it has not lasted too long.
Treatment. absolute rest in bed. Restricted diet. Nourishment by rectum. Give as little by the mouth as possible & then only liquid food as milk & lime H_2O in small quantities.
Do not give food as it excites the peristaltic action of the stomach
Wash out stomach with warm $H_2\phi$ & Bicarb of Soda if there is much shutting of mucous.
In the morning Give alkaline water (Carlsbad) either hot or iced.
To treat the ulcer give $AgNO_3$ in sol. or pill, guarded with opium if in pill as 1/4 gr silver & 1/6 watery extract opium.
Give also Bismuth, Creasote, Carbolic Acid &c

Counter irritation to epigastrium is useful in some cases & if there is much tenderness blister the epigastrium.
Never use laxatives

Cancer of stomach. the name ginnts covers all the neoplasms of the stomach
Causes - occurs more frequently in men than women
Cancers generally develope where there has been a local injury. It is a disease coming on generally after the age of 50 yrs. Heredity will not be traced in many cases
Morbid Anatomy - Seat of Cancer
I Pyloric orifice - hard cancer
II Cardiac "
III Body of stomach anywhere
Symptoms - nervous shock or strain, there is no apparent cause

stomach be found distended with blood. We may have **bloody stools** for a day or two. The **appetite** is varying. It may be craving or the patient may be dyspeptic. The **Bowels** are costive, because not much food is retained. The patient becomes **anæmic**, and rapidly loses flesh and strength. Extreme anæmia follows hemorrhage. A superficial examination of the Epigastrium reveals **no thickening** or tumor. The pain, tenderness, and vomiting may last weeks or months.

The **Prognosis** is good, if the ulcer is recognized early and promptly treated. There is danger of free hemorrhage, or we may fear perforation and peritonitis, or death from inanition through protracted interference with feeding.

Diagnosis is easy. We may be confused between Ulcer of the Stomach and *Hysterical Vomiting*. Girls may have *Vicarious Menstruation*. The observation that the hemorrhage coincides with defective menstruation, and the vomiting is not coincident with Eating, and the pain not so clearly defined in position, make the diagnosis clear. We should be careful not to be misled by the *Vomiting of Early Pregnancy*.

Treatment. 1. Insist on the patient submitting to a rigid treatment. Enforce absolute *Rest*. Let him remain in bed, or at least restrict his exertion. 2. *Diet*. No hard, coarse, stimulating food must be allowed. The best diet is absolute milk diet, given at intervals and in small quantities. This favors healing of the ulcer. Soft eggs, custard, junket gruel, mush, broths may be tried. If vomiting ensues, all other articles except milk must be restricted. If it still persists, add Lime water to the milk to dilute it, and prevent fermentation. When the ulcer heals, we may return to solid food very slowly and cautiously. Opium is constantly required to moderate the appetite, allay pain, and diminish the morbid sensibility of the stomach. To stop vomiting, give Subnitrate of Bismuth and Nitrate of Silver. It should remain for some time in contact with the stomach. Give Silver Nitrate, gr. ¼–½, in pill, half an hour to an hour after food is taken. It may be given on an empty stomach. If well borne, the above dose is not too much. To remove Morbid Mucous secretions, give a mild Saline in the morning, as half a pint of hot Carlsbad water or Sulphate of Soda in hot water. Sometimes we cannot continue the Silver for fear of staining the skin. Then go back to Bismuth, small doses of Tinct. Ferri Chlorid, and then back to Silver.

Complications may require enemas of food and blisters. *Hemorrhage* demands Opium and the avoidance of food by the mouth. Ice to the Epigastrium, Gallic Acid and Marsel's Solution, and the hypodermic use of Ergotin in the abdominal walls. The *Peritonitis* which follows perforation is too rapid to admit of treatment.

Sequelæ. Following an ulcer we may have unfortunate consequences, as protracted Dyspepsia or Constriction of the stomach from a large ulcer near the Pylorus, making a diaphragm and dividing the stomach into two portions.

Cancer of the Stomach may be Primary or Secondary, as after the removal of a Cancerous gland elsewhere. 1. *Alveolar* Cancer, where the meshes are filled with a gelatinous substance, is not rare. It leads to an infiltration. The whole stomach may become a colloid membrane. 2. We often have *Epithelioma*. This forms broad, oval patches, from one to four inches in width. They have rounded, raised lips. The surface is not flat, but irregularly undulating and covered with points. Sometimes we have Exudations. The growth may be round the Pylorus and obstruct it, or on the anterior wall. 3. We may have a Carcinoma projecting into the stomach;

or 4, we may have a Scirrous, which gives rise to the conversion of the stomach into a dense mass, varying from the size of an English walnut to a hen's egg. The Pylorus is thus obstructed, and the stomach will be variously affected. Where the Pyloric orifice is obstructed, the organ is enormously dilated. We find lesions of the Glands along the curvature of the stomach, associated with Cancer of the Liver, Pancreas and Glands.

Causes. Sex. It is more common in men. Women have cancer of the ovary or uterus and mammary glands. **Age.** It is most common after 50, but may be met with at 25 or 35. **Hereditary** influence. Continued **excesses** tend to produce it. It is often found in those who have had slight signs of Epithelioma on the skin.

The **Symptoms** vary with the kind, extent and seat of the cancer. Ordinarily we have a causeless, indefinite and intractable **Dyspepsia** and a good deal of **Gastric Distress,** which may yield to simple treatment, but comes back. Slowly progressive **Loss of Weight,** with loss of strength. **Paleness** of the face. **Vomiting,** at first occasional, growing more frequent until it becomes a daily occurrence. Vomited matters are mucus, altered food and little black grounds. Then **Pain** referred to the stomach, taking the form of Gastralgia. More usually the pain is not severe, but is increased by taking food. Some **tenderness** of the Gastric region, which is diffused. Then **Constipation** of the Bowels, becoming more and more marked and obstinate. Lastly, a feeling of thickening and hardening and a distinct **Tumor** in some part of the Epigastrium. **Emaciation,** Debility and Anæmia are always present.

Special Differences. 1. *Vomiting* is a very variable symptom. If it be an Epithelioma on the upper surface or at the Cardiac orifice, there may not be a single act of vomiting. The vomiting may simulate that of ulcer. There may be no tumor perceptible. If vomiting occurs a number of hours after eating, we know we have obstruction of the Pyloric end. Torulæ may be vomited. This was formerly considered an indication of Cancer.

2. *Hemorrhage* may be entirely absent, or quite free. It may be like coffee grounds or a bright red.

3. The *Appetite* is extremely variable. Usually there is want of it. If the appetite is good we probably have a Pyloric Cancer, and the rest of the stomach is free. Midway between the Umbilicus and Costal Cartilages we have Scirrus. It may be adhesive and immovable. Scirrus and Pyloric Cancers most frequently form Tumors. The distension of the stomach influences the position of the Tumor. It will be influenced by adhesions. When the walls are infiltrated we have no Tumor, but great hardness and resistance on palpation over the Gastric region. We may, however, mistake the stiffened Recti Muscles for the abdominal wall, hence in examination the abdominal walls must be relaxed. Let the patient be on his back, with his knees drawn up. It may be necessary to administer ether.

4. *Constipation* varies with vomiting. Where there is late vomiting and obstruction there will be, of course, increasing constipation. Owing to the escape of nasty fluid into the intestine we may have diarrhœa. There is loss of flesh every week. An apparent gain in flesh is but a flicker of improved nutrition. Week by week and month by month the patient is less able to work. The pallor increases and the case is eventually hopeless.

Diagnosis. Distinguish Cancer from—1. *Simple Ulcer,* by the age and previous history of the patient, and the character of the vomit. In Ulcer, the patient vomits soon; in Cancer, late. The effect of taking food is different. No distress occurs after Eating in Cancer. In Ulcer the pain is

Symptoms Pain more controllable & less violent than that of ulcer. Tenderness on pressure is less. Appetite in Cancer fails. Nausea is not common but if taken food is taken there may be distress increasing to nausea or vomiting. Matters vomited vary be various & little blood may be ejected but it is generally dried upon by mucous & is black & coagulated. There may be an absence of HCl in cancer. Conditions of bowels varies greatly when there is pyloric stenosis there is constipation the condition of the stomach itself must be studied
The most typical condition is to find a tumor in the pyloric orifice with greatly distented stomach, which is hard, movable and tender.
On percussion of dilated stomach the gastric resonance extends over a larger space than usually.
On palpation we hear the splash of the liquid contents of the stomach
On inspection we see peristaltic movements of stomach
If the cancer is not at the pylorus you will not get these symptoms
Prog - very grave or fatal
The course varies from 6 mos to 3 or 4 years.
Modes of termination - By development of secondary cancers
By hemorrhage &c
Differential Diagnosis - from contracted head of Pancreas
from an indurated mass of feces in transverse colon
Treatment - Empty the stomach if it is much dilated &c
If stomach is acid or putrid use alkaline or antiseptic solutions to wash it out.
Give drugs which aid digestion as pepsin & mineral acids &c
Medicines here are often of more harm than good.
As these cancers are not malignant, but the most are the non-malignant stenosis you do not find a tumor & it occurs early in life
Syphilitic Ulceration may occur at pyloric orifice, the cicatrix of which may narrow the orifice.
When surgery fails in pyloric obstructions make an intestinal fistula or anastomosis of intestine to stomach
Relay frequent vomiting by regulation of diet & give Soda. $AgNO_3$, Creasote &c & when there is great pain anodynes.

Dilatation of Stomach - Permanently distended to a good degree
Comes from stenosis or relaxation of walls of stomach
The mucous membrane shows signs of catarrhal inflammation
Causes 1 Pyloric stenosis.
2 Habitual over distention with fatty accumulations
with relaxed and flabby muscles.
3 Nervous symptoms with prostration
4 Dyspepsia.

Symptoms Digestion is incomplete & there is weight
distress, flatulence, eructations &c. General health suffers
Rumbling &c from the gas.
Disturbances of respiration & circulation, weakness
Raging pain in abdomen
Physical Signs 1 Fullness of gastric region
2 Feeble peristaltic wave
3 Area of gastric tympany extended on percussion

Diagnosis By physical examination chiefly.
Treatment - Same as in chronic gastric catarrh
Stimulate walls of stomach to contract.
Wash out stomach 2 or 3 times a week or daily
Regulate diet, small amounts at short intervals

Externally - Friction, Kneading, Massage, Electricity &c.
Internally - give Strychnia D. & in nervousness give
antispasmodics as valerianate of zinc associated with iron

more acute, and there is no Tumor. In Ulcer, Constipation is less obstinate. The general health degenerates more rapidly in Cancer. 2. We may have small *malignant ulcers* and great pain. Our diagnosis is then Therapeutic by the cure of the one and the increase of the other. 3. In *Catarrhal Gastritis* we have a cause and history. Glairy Mucus is thrown off in the morning. The Tongue is coated. The appetite impaired. There is flatulence and moderate constipation. The General health is not so impaired. There is no Tumor present, and Hemorrhage does not occur.

Treatment is merely palliative. The diet must be proportionate to the digestive power and the degree of obstruction. No solid foods must be permitted, and only those liquids which remain liquid; hence whey, and not milk, which forms a curd. In any case where solid food is digested it may be given in the form of pancreatized or peptonized meats. Certain Remedies are used to stop vomiting and soothe the irritation, *e. g.*, Oxalate of Cerium, Nitrate of Silver, Chloroform, Hydrocyanic Acid, Bismuth, Creasote and Soda. Fowler's Solution, in doses of gtt. i–ii, may act favorably for a time. Opium is often required. No operation is of use. In *simple* Pyloric obstruction we may have recourse to it.

Pyloric Obstruction may be connected with—

1. **Cancer.**
2. **Cicatrices.**
3. **Fibroid Thickening.**
4. **Pressure.**

Symptoms are Retention of food, its decomposition, and the formation of gas Distress after eating and Dilatation of the Stomach. A wave of peristalsis with a billowy movement is visible. Vomiting is late and consists of sour fermented matter and Torulæ. The health suffers. There is failure of strength and flesh. The Bowels are constipated.

Diagnosis. The Diagnosis has reference first to the existence of an obstruction, and secondly to its cause. In deciding between the causes look for a Tumor. If there is no Tumor it is probably cicatricial. As regards Cancer, the age, duration and previous occurrence would be diagnostic. A history of symptoms of ulcer passing away and followed by those of obstruction would point to cicatrices.

The **Prognosis** depends on the Diagnosis. In the case of Cancer it is hopeless. If non-malignant it is grave, but not necessarily fatal.

Treatment consists in the administration of diet and sedatives and remedies to promote digestion. Washing the stomach out with tepid or salt water is good here and in cancer. If there is merely Fibroid thickening we may open up the stomach and tear the pylorus. This has been done several times by an Italian surgeon. The propriety of establishing a Gastric Fistula is questionable.

Dilatation of the Stomach. The **Causes** are various, *e. g.*, **Pyloric obstruction** from whatever cause arising. It may be a symptom of **Hysteria.** It may arise from **constant over-distention**, if there has been **chronic atony** of the muscular walls. The degree varies. A moderate amount may be physiological. It may come down below the umbilicus and pyloric orifice, and go far beyond its normal position. The pylorus may be removed to the right.

Symptoms. The area of **gastric tympany** is very much increased. The pressure upwards may raise the diaphragm and induce **Dyspnœa** and **Palpitation,** especially in a neurotic subject. There is a sense of weight at the Epigastrium. Vomiting of unfermented material. Gas is eructed. Owing to this, many have to lead a secluded life.

Diagnosis is rendered easy by Percussion. If we are in doubt as to the extent of dilatation, we may administer one-third Seidlitz in different powders, letting effervescence take place in the stomach. This distends it. The Œsophageal Sound will show an unusual depth. We have a splashing sound developed as well as in **Pneumo-Thorax.** (Vide page 162, Vol. I.) A weak diaphragm may allow the Stomach to push it up. The Lungs are crowded; there is a perfect metallic succussion splash. It, therefore, strongly resembles left Pneumo-Thorax. We must be on our guard. The history of the case and the perfect continuity of the Sound would show a distended stomach. In Pneumo-Thorax, there would be a difference as we came to the Stomach line. The total absence of respiratory sounds over the nipple would be remarkable. Make the patient drink water while auscultation is practised. A cavity in the chest would not affect the fall of the water. Here we get a metallic ring as it reaches the distended viscus.

The **Prognosis** is generally favorable and depends on the cause.

Treatment. The *general health* must be attended to. Associate with a carefully graduated diet, the use of massage and electricity, applied to the muscles of the trunk. This gives lateral support to the abdominal muscles. Among *Drugs* we require Strychnia in ascending doses and remedies to improve digestion, if the dilatation is simply atonic or dependent on Catarrhal Gastritis.

V. THE PERITONEUM.

The Peritoneum is a true serous membrane which is liable to Inflammation, which we consider under the head of Local or General Peritonitis, which again may be either Acute or Chronic.

Local Peritonitis. Causes are—1. **Traumatic** as a Blow, Wound, etc. 2. **Perforative,** *e. g.*, from the rupture of the Gall bladder owing to Gall Stones, or the perforation of an Ulcer, or of the Vermiform Appendix. 3. **Irritative** either from the exterior or from some of the Viscera. 4. **Secondary** from some blood dyscrasia or connected with other diseases as Pyæmia, Erisypelas, and Zymotic diseases. 5. **Puerperal** Peritonitis. 6. **Idiopathic** arising from exposure to cold, in a weakened state of the system

Anatomical Appearances are a thickening of the membrane, congestion and the deposit of lymph, giving rise to adhesions. The longer it has lasted, the greater the thickening. Early in the disease the lymph is soft and can be picked off. Certain parts are very liable in the regions of the kidney and the spleen. Their capsules may be irritated through sympathy with the organs themselves. Pelvic Peritonitis is common. Around the head of the Colon it is not rare.

The **Symptoms** are **Acute pain,** increased by movement or pressure, or where it has reached the diaphragm, by coughing. **Tenderness** over the affected region. Some **Swelling,** *i. e.*, when it can be detected. In Perihepatitis, the Liver is pushed down. In the Ovaries we have an area of induration which we can feel. **Fever** which may be sharp, high, and abrupt. The **Pulse** is quickened. There may be **Gaseous Distention,** and the patient draws his knees up to relax the belly walls. **Vomiting** particularly where the upper segment is involved. **Disturbance of Function,** *e. g.*, Jaundice in Perihepatitis.

Diagnosis relates—1. To its *existence.* 2. To the determination whether it is *Local* or *General.* The first point is determined by the local Pain and Tenderness. *Rheumatism* of the abdominal walls may simulate

Peritonitis | acute or chronic
Local or General

Causes - Traumatism - blow &c
Perforation
Infection
Secondary to some blood disease
Puerperal
Idiopathic - cold

Symptoms - Fever - 103°
Acute Pain
Tenderness
Tympanites
Constipation
Vomiting
Position - Back legs drawn up
Rapid Pulse

Duration 2 to 9 days -

Treatment - Rest, Opium, leeches,

Chronic -
Causes - repeated acute attacks
Tuberculosis & Syphilis
Cancerous growths

Local Peritonitis, but there we have *general* tenderness. We must distinguish it from Hepatic, Nephritic, and Intestinal Colic. In none of these is there acute fever or rise of pulse. There would be general griping in abdominal Colic. 2. As to whether it is Local or General. We diagnose *Local* Peritonitis by the lesser gravity of the general symptoms and their evident circumscribed locality. The whole belly is not tender. Then we should have disturbance of some particular organ.

Prognosis. Local Peritonitis is not dangerous. 1. It may, however, become *General*; then it is so. 2. It may leave Lesions, making the patient liable to relapses from time to time.

General Peritonitis is either Acute or Chronic.

I. **Acute General Peritonitis.** In the early stage, the membrane is injected and the surface is red, dry, and stickey. Layers of membrane easily peel off. At other times, the exudation is purulent. We find pus among the agglutinated folds. It settles in the dependent parts.

Symptoms are—1. *Local.* There is **Pain,** constant, severe, and paroxysmal increased by movement, coughing, and peristalsis. **Tenderness** at various points. Auscultation reveals **Friction Sounds** or Fremitus. The hand on the intestine feels a **Thrill.** There is **Distention** which may become extreme. It is uniform. The walls of the abdomen may be so thin that we may even see the coils of intestine. We find **exaggerated tympany** over the stomach and in other places dullness. The **line of effusion** varies on changing the position. Where there is not a great deal of effusion, we get the **sense of fluctuation** in one part not right across as in Ascites. 2. *General.* The onset is rapid. The **Fever** rises rapidly, but is variable in degree. Not as high as we might expect. The **Pulse** is extremely rapid, 120, 130, 140, out of all proportion to the Fever. It is thready, small, and has a hard contracted feel which soon gives way to extreme weakness. The **appearance** is peculiar. The **Face** is dejected, shrunken, and anxious. **Decubitus** is dorsal with flexed thighs. The **Tongue** is red and somewhat coated. The **Stomach** is irritable and **Vomiting** is frequent. It is more like gulping or regurgitation. The **matters vomited** are mucous, bile-stained liquid, and fœtid. The **Bowels** are obstinately costive, except when the mucous membrane is affected, and then there is catarrhal diarrhœa. The **Vital force** is lowered. **Nervous Symptoms** appear. There is Restlessness and wandering at night. **Respiration** is affected by the upper Costals, the Diaphragm being crowded up and paralyzed. There is **Tympanitic Resonance** over the chest. So great is the tension between the crowded Lung and Intestine, that the Liver cannot be recognized. The **Heart** is displaced. The **extremities** grow cool. The **Features** become more pinched. The **Pulse** is running and thready. The **Voice** whispering. The Body is bathed in **Sweat,** which may be greenish or brownish and fœtid, and Death finally occurs in collapse.

Duration is from two to nine or twelve days.

The **Diagnosis** is easy. *Colic* might simulate Peritonitis, but only at an early stage. *Hysteria* may deceive us. We may find gas in the Bowel and and temporary paralysis of the abdominal muscles. The patient lies on his back, much excited. The Temperature, however, is normal; and when the patient's attention is distracted, on feeling the walls there is *no tenderness.* There is not the same change in the face, and the History of the case is different.

The **Prognosis** is very grave. If Traumatic, it is excessively so. In rare cases of Idiopathic it is more favorable. General Peritonitis, which attends Pyæmia or Erysipelas, is always fatal.

Treatment. Absolute rest is necessary, and only the lightest possible diet. If vomiting ensues, we must stop all food and rely on Enematas. Patients can go without food for a wonderfully long period. If, however, the Stomach is retentive, we must be guided by general principles. Give Opium either hypodermically or in Suppository. If it is a frank case following Traumatism, put leeches over the stomach. If from Zymotic disease, no leeches must be used. The surface is too extensive for blisters. If it is Traumatic or Idiopathic, use Calomel until the gums are touched; but if it is Septic, do not. Where there is Perforation, open up the abdomen, wash out the cavity, and prevent fresh escape of the contents of the stomach. This would only be resorted to in desperate cases. If vomiting is extreme, use a blister over the Epigastrium. The distension may be so great that the patient is suffocated by the Diaphragm. Then introduce a long tube up the sigmord flexure, or puncture the most prominent parts of the intestine with Capillary needles. No danger, comparatively speaking, will attend this procedure.

Chronic Peritonitis may follow repeated attacks of the Acute, or be chronic from the start, and associated with Tuberculosis, Syphilis, and Cancerous Growths.

Its **Anatomical Appearance** differs with the cause. In *Tuberculosis* we have large yellowish tubercles on the Serous Membranes, great adhesions and tuberculous nodules studding the adhesions. In *Syphilis* we have thickening and Contraction of cicatricial tissue, adhesions and effusions, either serous or mixed with pus. In *Cancer* the effusion is stained with blood.

Symptoms. We have **General impairment.** The **Skin** is dry and wrinkled. There is great **weakness.** The **pulse** is rapid and weak. The **breathing** oppressed. **Fever** may be slight or absent, except in the *Tuberculous* form, where it is Hectic. The **Abdomen** is enlarged. There may be excruciating **Pain,** or there may be none. The **Belly** may be very tender or not so. **Percussion** reveals alternate patches of dullness and resonance. Change of position does not make so much difference as in Ascites, the effusion being held in pouches of adhesion. **Fluctuation** is only partial. We observe that the intestines are glued together, and there is a sense of shock.

Diagnosis. Two questions arise—1. As to its *Existence*; 2. As to the *Cause*. It may be overlooked. It is sometimes latent. We may have simply failure of health and enlargement of the abdomen. We must study the History, method of development, Hereditary tendencies, Presence of Cancerous nodules, or Tuberculous glands elsewhere, and the general condition of the other organs.

Prognosis depends on the recognition of the cause. It is most favorable when it comes from repeated attacks, or has spread from a neighboring organ. Syphilitic is hopeful. Not so the Cancerous or Tuberculous forms.

Treatment is mostly palliative. The indications are to relieve the pain and to remove the effusion, when excessive, by tapping. In case of Ovarian tumors we use the knife. Where possible, remove the cause, as in Syphilis, by specific treatment, or by the removal of removable Tumors. Tapping rarely does harm, and gives much relief both in the Syphilitic and Tuberculous varieties.

VI. THE INTESTINES.

Typhlitis and Perityphlitis. By these terms we understand an *Inflammation of the Cœcum Appendix Vermiformis and Peri-Cœcal Connective*

Enteric - Colitis - inflam of mucous membranes of small & large bowel
here there is congestion of the membranes & catarrhal changes
of the epithelial layers with enlargement of the follicles which
may pass into superficial ulcerations
Cancer - commoner in children the nervous system is sensitive
may occur at any period of life. Climate - so intense heat
with sudden changes. Bad H2O. Indigestible food. Impaired digestion

Anatomical Lesions,

Acute - red congestion [illegible] follicles are enlarged & distended, Follicles may rupture & cause follicular ulcers.

When the disease lasts long the coats of the bowel become thickened stiff &c.

These lesions may [illegible] varying extents of intestine

Symptoms - modified fever, preceded by slight rigor, fever going up to 102 or 3°, in children going higher to 104 or 5°.

There are rarely any nervous symptoms except in little children where there may be grinding of teeth &c. a violent attack may bring on convulsions in children. Coating of Tongue, Stomach is sensitive, vomiting may occur on taking food. Pain in abdomen of a cutting gripping kind but without bearing down. Discharges are frequent at first quite large, liquid, & light in color. In bad attacks they may be serous, this is more the case in children than in adults, these discharges may number from 6 to 20 in 24 hrs. It shows how much surface is involved by the number & amt of the discharges. There is neither blood nor much mucus in these discharges. Belly is tender & distended, there is much thirst on acct of fever. Flesh & strength is lost rapidly.

Course of acute 7 to 10 days. Acute may run into Subacute & then the duration is indefinite.

The acute in children is called Summer Disease.

It may be mistaken for typhoid fever, but the attack is more abrupt & the diarrhoea more abundant & there is no nose bleeding & no eruptions.

Chronic - may follow acute - Causes hence are same as acute. Diarrhea may [illegible]. The diarrhoea is here very obstinate & runs a long course.

Symptoms - depend on extent [illegible] involved &c as in acute.

Prognosis must be guarded.

Diagnosis may be taken for intestinal tuberculosis, but in tuberculosis the lungs are affected first in the adult, but not so in children, when we generally have retroperitoneal & mesenteric tuberculosis. The temp. is more steady in chronic Entero Colitis than in tuberculosis.

Treatment of Both -

Acute - Rest in bed until complete cure is effected. II Sanitary surroundings must be looked into. Also diet & drinking H_2O. III Diet must be liquid [illegible] in character & milk. IV Small quts. at short intervals. V Stimulants should be avoided until [illegible]. VI Counter irritation to abdomen as mustard [illegible] or Iodine. VII Flannel bandages around abdomen with [illegible] tightness. VIII [illegible] purge if an irritating substance is in bowels as castor oil [illegible] or Calomel - Rhub - [illegible] guarded with opium, viz. -

℞ Pulv. Mag. Hydrarg. gr VIII.
Syr. Rhei Aromatic. ℥ III.
Chlorodyne gtt XL.
Sig. - 1℥ for child 2℥ for adult.

after this [illegible] astringent as bismuth if symptoms do not yield in a few days

[illegible] rectal injections of [illegible] with opium.
If symptoms go but diarrhoea remains [illegible]
℞ Argenti Nitratis gr I:
Mucil. Acaciae ℥ IV.
1℥ 3 times a day for child, [illegible] with a drop of Tr Opii Deo. or Camph.

Typhlitis is inflam of Cæcum - Perityphlitis is inflam of connective tissue of Cæcum & appendicitis .. .. appendix.

Tissue, which involves all the coats, Mucous, Muscular and Serous. It is therefore attended with Peritonitis, which is Local or General. When the appendix is affected there is a tendency to perforation.

Causes. Age. It is more common in children and young adults. **Traumatism,** as strains and blows. **Dietetic.** Eating crude, indigestible and rapidly swallowed food, causing collections and impactions of parts with fœcal matter. Habitual **Constipation** favors it. **Foreign bodies,** as grape seeds, cherry stones, little gall stones, particles of hard mucus and fœces. It is doubtful if the concretions are formed in the Appendix itself. A mucous catarrh may exist. This stops the fœces, which accumulate.

Morbid Anatomy. We have an inflammation of the coats of the bowels and ulceration of the mucous membrane, commonest in the Appendix Vermiformis, but also occurring in the Cœcum. The coats are swollen, congested and softened. Exudation occurs into the Cellular Tissue. There is often impaction of the peritoneal surface of the bowel, which becomes infiltrated and the seat of inflammation. Not rarely is there a tendency to suppuration and a peri-cœcal ulcer may occur, working its way up above the crest of the Ilium, or it may originate externally, or may result from extension of inflammation outwards. Lastly, there may be a rupture of the Appendix Vermiformis. An abscess may be perfectly circumscribed, or only partially so, by folds of membrane. In these latter cases general Perityphlitis exists as a complication. There is always inflammation of the Peri-Cœcal Tissue, and danger of general Peritonitis, with a tendency to Gangrene.

Symptoms. Pain in the right Iliac region, which is severe, cramp-like, sharp, and increased by cough and motion, relieved by lying down and flexing the thighs. There is exquisite **Tenderness** on pressure. In the Iliac region, just inside Poupart's Ligament, we feel a **Tumor,** which may be small or large when the Cœcum is impacted and full. **Fever** is high and quite acute. It is an inflammatory fever. There is **Distress** and Restlessness. The **Pulse** is rapid. Vomiting is frequent and easily excited by any indiscretion in diet or medication. **Constipation** is marked. There may be a stool to empty the bowel of what was there before, and then Constipation. We have—

1. Inflammatory Fever.
2. Obstruction of the Bowel.
3. Local Peritonitis.

These account for the above Symptoms.

Course. *Firstly*, we may have **perforation** of the anterior inferior wall. This is rapidly followed by fatal Peritonitis. If the ulcer is on the posterior wall, it would get out between the bowel and connective tissue, and we should not have Peritonitis. After these symptoms we may have a deceitful lull, but the distension becomes greater and the **tenderness** spreads. The patient sinks into **debility.** The **pulse** is rapid and feeble. The **extremities** are cool. There is **gulping** and vomiting of offensive and **discolored liquid.** The **face** is pinched. Death occurs in from five to nine days. The *post mortem* reveals Concretion as the cause. *Secondly*, where there is a tendency to **Resolution,** the **Fever** subsides. The pulse becomes slower. Liquid food can be taken. The **Bowels** are moved. **Thickening** subsides, and there is a gradual return to good health.

The *Third* result is by **Suppuration,** and the formation of a circumscribed **abscess** where the lesion is on the wall of the cœcum and peri-cæcal connective tissue. The course of the symptoms shows no improvement. **Pain** continues. The **Swelling** increases. The **Fever** becomes hectic. We may have a slight **Rigor,** and then a **Sweat.** The sweat

marks the beginning of Suppuration. The Local Symptoms may not be satisfactory. We may find fluctuation, or it may seem as hard as at first, or dullness may be transmitted by the thickness of the walls and fascia. We cannot prove the presence of an abscess in the Iliac fossa by physical examination, but the continuance of the case for nine days, and the change of the fever to a fluctuating type, shows the existence of an abscess. The abscess may burst into the Cœcum and end favorably, the pus breaking through the anus; or it may burst into the Bladder. More generally it breaks into the Peritoneal Cavity, and carries off the patient. We must carefully observe the patient when recovering from Resolution. Relapses are common, and provoked by simple causes. One patient may have twenty relapses. They must be carefully guarded till thickening is over. There is a tendency, if convalescence is neglected, to chronic Typhlitis, with chronic thickening of the gut.

Diagnosis. This is a frequent disease, and from the above symptoms, easily recognized.

The **Prognosis** is good but anxious, save in the perforated form, when it is well nigh hopeless.

Treatment must be prompt. Do not be hasty in using any drastic purgative or irritating drug. One dose may aggravate the disease. Give something to quiet the pain. Place the patient on simple diet, and order absolute rest, even though the fever is not severe. The diet must be the most simple possible. Whey, Broth and strained Gruel should alone be administered. There is no danger from restricting the diet. Let the patient feed on his own vitality. Make applications to subdue the inflammation. If it is violent, apply a few leeches and afterwards ice over the Iliac fossa wrapped in cloth or flannel. Cold does better than warmth. It is more apt to produce Resolution. Later we may use Iodine and Blisters to quicken the removal of matter after suppuration. Keep the bowels open with Calomel graduated to the age and tolerance of the patient. After enough Calomel has been given, we may use Iodide of Potassium with Opium. If the Calomel has secured a movement, the patient will recover rapidly. After the Inflammation has subsided, in seven or eight days we may cautiously proceed to secure a slight movement of the bowel by the following:—

℞ Ext. Colocynth Co. gr. xx,
Ext. Belladonnæ gr. ii,
Pulv. Rhei gr. xx,
M. ft. Pil. xx.

This may be given to a child of twelve. After inflammation, and when constipation persists, even after Calomel and Iodide of Potassium:—

℞ Olei Ricini f℥i,
Olei Terebinth gtt. l,
Pulv. Acaciæ,
Aquæ Cinnamonii q. s. ad ℥iv,
M. ft. S.: f℥ii, every four hours.

About the fourteenth day Resolution should begin. If not, an exploratory operation should be made, carefully cutting layer by layer. We can thus conduct all cases safely, except when there is Perforation. If this occurs we must choose between Euthanasia from Opium and opening up the bowel. We then can say where the Ulcer really is; but this is a very grave operation.

Obstruction of the Bowels arises acutely or gradually, and includes all conditions which cause a mechanical obstruction to the fœcal current. Under the head of **Acute** conditions we have—

Treatment of Chronic Entero-Colitis – Pulp of raw meat is easily digested given in small amts. several times daily, is better in children; Cod-liver oil too is sometimes [illegible] good. Iron is generally not well received, but very small doses may be given. Give Cu, Zn, Ag, arsenic & other astringents. Bismuth with Carbolic acid in very small doses may be given. Arsenic when there is no irritation guarded with opium. It is not the immediate effect of these remedies that you want but the secondary effect, hence use very small doses often repeated. Use the rectum as an avenue for remedies. Counter irritation is sometimes useful especially if there are patches of tenderness.

Diagnosis – may be taken for intussusception of the bowel. In intussusception you have a sudden attack, pain, vomiting, obstruction of the bowels. There is not as high fever as in typhlitis but the vomiting is more persistent, the tumor is felt higher up than that of typhlitis. There is straining & passing of bloody mucus in intussusception.
May be taken for various forms of obstruction, for an internal hernia, for a volvulus or twist. In these there is not the early pain & high fever nor the tenderness on pressure, neither there is pain nor is there an indurated swelling in the iliac fossa as there is in typhlitis.
Treatment – Do not purge until the inflammation is overcome. Calomel in small doses guarded with opium will do good & relieve pain. Calomel will favor intestinal secretions, to prevent vomiting, [illegible] Give quinine & opium by rectum to control fever. Later encourage a movement with Liq Mag Citrate or Castor oil in small doses, or Comp ext Colocynth guarded with opium. If the fever becomes hectic suppuration has occurred.

Causes of Acute Obstruction
I Impaction of the bowel – as foreign body or hard feces
Foreign bodies – a large gall stone, hard coarse food
II Invagination
III By a band of organized lymph, or a twist
Causes of Chronic
I Formation of growths in bowels
II Slow cicatrization of an ulcer
III Tumor outside of the bowel
Impaction
Symptoms – If from gall stones have a previous hepatic history.
History of constipation, then pain, vomiting, &c
The vomit contains bile & even fecal matter
We find a tumor commonly in the caecum
Diagnosis – from other abdominal tumors
Prognosis – is good
Treatment – Cut off all food. If vomiting wont cease wash out stomach with warm H_2O.
Use rectum for nourishment
Get rid of accumulation by means of large injections.
Injections if impaction above the ileo caecal valve are no good
[illegible] followed by injections of

warm N 20 + soap. Use no irritating [illegible] and give
Castor oil in small doses & Strychnia in [illegible]
Gentle Kneading is good. Electricity is good
Injections of effusion of Enema
Invagination.
passage of portion of bowel into the adjoining portion
either above or below
Causes
I Early Age
II Morbid condition of bowel
III Peristaltic action being increased
Symptoms
1 Intestinal obstruction (sudden)
2 Acute pain
3 Nervous phenomena
4 Restlessness
5 Vomiting which becomes worse & may become fecal
6 Belly distended & is tender
7 A tumor is felt in the axis of the bowel usually
seated in the line of the colon
Diag.
1 Met with frequently in children.
2 There is an obstruction
3 There are bloody discharges
4 Explanation by repeated examinations
Prognosis is better than in intestinal obstructions of the gut but
it is always grave.
Treatment I Avoid anything stimulating peristalsis. Give opium
hypodermically
II Allay the pain
III Stop vomiting with Opium &c
IV Give no food
V If the vomiting is severe wash out the stomach in adults
this can be done in children
VI Reduce the bowel by injections of warm water into the
rectum by hydrostatic pressure, this should be
done slowly. Or the rectum may be distended with
hydrogen gas.
VII Or as last resort do Inguinal Colotomy

1. **Invaginations** or **Intussusceptions.**
2. **Twists** or **Flexures.**
3. **Hernias** of various sorts, *e. g.*, through the Diaphragm, Messentery or Abdominal Walls.

Under **Chronic** Conditions come—

1. The presence of **enlarged organs.**
2. **Displaced Organs** or **Tumors.**
3. The lodgment of **Foreign bodies,** *e. g.*, Gall Stones, dried peaches, etc.
4. **Occlusions** by Bands or Loops.

1. **Invagination.** The morbid anatomy explains many of the Symptoms. It is most commonly found in the lower part of the Small Intestine, which slips through the Ilio-Cœcal Valve into the Colon, but it may occur at any point. It may occur in the death agony of children. To the piece of bowel intruding we give the name of *Volvulus*. The other is the Sheath. The peritoneal surfaces come into contact with each other. It is not unusual for 8, 10, 12, or even 24 inches of intestine to pass into the Sheath. The Cœcum is turned upon itself, and the whole of the Cœcum may go up into the Transverse Colon. We have violent efforts at defecation. Very soon inflammation sets in and we get the lesions of Peritonitis. Exudations and adhesions occur. The neck is constricted. The whole vagination is swollen, discolored and infiltrated. There is congestion of the Mucous Membrane, and its vessels may break and bleed. The bowel above is greatly enlarged.

Results. 1. The most fortunate is **Resolution,** where the Inflammation subsides and the Volvulus slips back and escapes. 2. **Adhesion.** The Volvulus sloughs. A union is made between the upper bowel and the mouth of the sheath. Two feet of intestine may thus be discharged per anum. 3. The Volvulus is retained and undergoes **Atrophy,** leaving a partial obstruction. 4. **Death** may occur from Peritonitis, Exhaustion or perforation at the point of constriction. It usually, however, occurs long before all the above changes take place.

Causes of Invagination. This is a disease of childhood. There are then more stomach disorders and the bowels are more movable. The condition is one of irregular Peristalsis. One part of the bowel is retained, while the other is contracted.

Symptoms are **Acute Pain,** referred to the Abdomen and Iliac Fossa on the right side. Frequent **calls to stool** and **straining,** but the bowels are **constipated.** Constant **vomiting** ensues. The **Belly** is distended. If the Invagination is extensive careful examination reveals a **Tumor,** which is not found in the Iliac Fossa alone, but along the line of the Ascending or Transverse Colon, or it may be in the Descending Colon. The Tumor is oblong, doughy and painful. The **Iliac Region** is resonant. When the straining breaks blood vessels **blood** may be passed. There is moderate **Fever,** Distress, Rapid Pulse and rapid prostration. Death occurs in from five to nine days, with symptoms of obstruction, terminating in Peritonitis. If the patient tides over this there is a period of terrible illness. There may be a rupture of the neck of the Volvulus, and part of the Bowel may slough away.

The **Diagnosis** should not present any difficulty. Consider first the age and then the signs of obstruction coming on acutely—1. In *Peritonitis* the Fever is higher, the Pain more severe, more circumscribed, and the Position assumed more characteristic. 2. In *Intussusception* we have a positive Tumor and Bloody Stools. The Volvulus may be even accessible to the finger. *Typhlitis* is not so common in early years.

Prognosis depends on the promptness of Recognition. If it goes past the first stage, the chances of recovery are bad.

Treatment. The prime indication is to try and force the Volvulus out of the sheath. Do not give Purgatives in any form at the start; they only drive the Volvulus deeper into the sheath. Quiet the vomiting and allay the pain with opium, and enforce perfect rest. As it is in the large intestine that the Volvulus is held, we may inflate the rectum with a bellows, or a glass nozzle with a protecting wad around it may be introduced into the anus, and water from an elastic tube is poured into the funnel at the end of the tube. If these fail, there are but two alternatives: to open the Belly and remove the obstruction, or to let nature join the sheath to the Volvulus after sloughing has first occurred. But death from Peritonitis occurs so often, that it is not safe to let it alone.

II. **Angulation**, or Twisting of the Bowel, and **Hernias**, *e. g.*, where a coil of Intestine gets through a hole in the Messentery or Diaphragm. Under this head we also consider **Lodgment** of **Foreign Bodies.** Although the Causes of Acute obstruction are different, the **General Symptoms** are the same, viz., Pain, Constipation, Ineffectual efforts to Stool, Vomiting of altered food, next mucous, then bilious, and lastly sterchorous. Distention of the belly increasing very greatly. The contents of the lower bowel are carried upwards. The Urine becomes more and more scanty, because very little fluid is retained, and the juices of the body are absorbed. The higher the obstruction the more scanty the Urine. We can often detect Indican in the urine when the obstruction is high up, by means of Chemical Tests. Meanwhile there is fever, prostration and emaciation.

In **Special Cases** we may have Special Symptoms. In Diaphragmatic Hernia there is a great deal of Hiccough, Tympanitic Resonance and Displacement of the Heart, and escape of the Intestines into the Anterior Mediastinum. It is important to locate the seat of the obstruction, especially for Operative Measures. This may be done by—1. The point of the strain. 2. The Amount of Urine voided; and 3. By the Character of the Vomit. The higher the obstruction the quicker vomiting comes on and the less the urine. But these considerations are vague.

The **Diagnosis** of the condition is easy, but of the character and seat doubtful.

The **Prognosis** is grave. If we do not operate the patient will die. He may have dosed himself with Purgatives, and this adds greatly to the gravity of the case.

Treatment. Absolute Rest, Minute quantities of food and the administration of Opium and Belladonna. Relieve the distension by the forcible introduction of water or air. This is both rational and legitimate. Remarkable cures have been effected by puncturing the Bowel—the sudden escape of gas starting peristalsis.

Gradual Obstruction is where impaction occurs from the accumulations of fœcal matter. The favorite seats are the Rectum, Cœcum, or from the Jejunum down. It may come on after Typhoid Fever or any wasting disease.

I. **Rectum.** The Symptoms may not attract attention. The patient may think the bowels have been moved several times, and may even complain of previous diarrhœa and of a feeling of bearing down and pain. Digital examination shows a hard mass in the Rectum. Put in warm oil to soften it and quarry it out with a spoon. We should not lose sight of the fact that where we have an exclusive milk diet it may cause impactions.

Obstruction by Twist – Some of these may be actual tumours.

Symptoms - 1 Pain
2 vomiting
3 Distention of belly
4 Fecal vomiting

Diagnosis - of the portion is made by exclusion, excluding impaction & intussusception

Prognosis - is hopeless unless operation is done.

II. **Cœcum.** Much more serious are Impactions of the Cœcum. **Causes** are the use of coarse hard food, constant Constipation following repeated neglects to stool. Loss of tone and general debility. The mass may be enormous, amounting to many pounds. The Intestines are greatly stretched and thinned.

Symptoms. Constipation, obstruction, distress. A sense of weight in the Belly. Nausea. A little vomiting. No fever. The Belly is distended, and an oval boggy Tumor, painless and moveable, is felt in the line of the bowel.

Diagnosis. We should never attempt to diagnose any Tumor of the abdomen without first looking for impaction. Always order a thorough evacuation of the bowels first. *Typhlitis.* Contrast here the absence of fever and rapid pulse, and extreme pain and tenderness. The less degree of vomiting and distention should prevent any mistake.

The **Prognosis** of Impaction is favorable, but we may be alarmed at the persistence of the condition.

Treatment. The indications are to nourish the patient without rendering the Impaction larger. Hence, use gruel, butter, milk, and strained broth. Gentle Laxatives as Castor Oil, either pure, in Capsules, or in Emulsion, or we may order a Pill of Rhubarb, Colocynth, and Belladonna. Strychnia in stiff doses may be added to the pill or given separately in the oil. Gentle kneading of the mass, so as not to bruise the bowel. Electricity, one pole being applied over the seat of the mass and the other insulated in the Rectum.

Stricture of the Intestine. Causes. It may come on after Typhoid Fever or after sloughing away of a Volvulus. A Syphilitic Ulcer, Dysentery, or a Duodenal Ulcer may cause it. Tumors may press upon the bowel and obstruct it.

Symptoms would be Constipation, Distress, and Distention of the Belly, and from time to time little spells of very alarming acute obstruction. These pass away, but get worse each time. Hence, the general health suffers. If it be a Cancerous growth, we have Emaciation, Debility, and Cachexia.

Diagnosis. Obstruction from *Cancer* may, from its rarity, at first escape our notice, but gradually is forced upon us. It is most frequently overlooked when in the Rectum, for then, as is not an uncommon case, a false diarrhœa may be associated with obstruction. Patients may come to be treated for Chronic Diarrhœa. Digital Examination reveals an Epitheloid growth. The history helps us much in our diagnosis of Stricture, or Malignant Disease of the Rectum, or other portions of the Intestines. The fact of there having been a severe spell of Typhoid fever, bad Dysentery, severe former invagination, or the previous existence of Syphilis, will put us on our guard, and digital examination shows the seat and cause.

Treatment. All internal treatment is highly unsatisfactory. Much comfort may be obtained from the use of proper diet and the careful administration of suitable Laxatives to keep the bowels soft; but finally the question of operating has to be met. We may form an artificial Anus. The difficulty of detecting the situation would deter a surgeon from opening up the Belly. Even the relief of an artificial anus should be weighed against the misery it implies.

Intestinal Neuralgia is a form of Visceral Neurosis, *i. e., a painful affection seated in the nerves, occurring in paroxysms and without marked disorder of intestinal function.*

Causes. It may occur chiefly in **Neuralgic Subjects.** It may be **Reflex,** as in Uterine and Ovarian irritation. **Anæmia** and General Debility, **Dyspepsia** of the Intestine and disordered digestion. **Toxic** agencies, as Lead, giving rise to Enteralgia. **Sex.** It is more common in women than men.

Symptoms. There is lancinating, twisting, acute, paroxysmal **Pain** about the Umbilicus. The **Belly** may be either distended or irregularly contracted and knotted. There is a marked sense of **prostration.** There is Nausea and **Vomiting.** The Extremities are **cold.** The **features** are pinched. The **Bowels** are constipated, or, if the mucous membrane is affected, we may have slight Catarrhal Diarrhœa. The **Urine** is scanty during the attack, and copious afterwards. The **Paroxysms** may occur daily, or several times a day, at stated intervals of weeks or months.

Diagnosis. Its mere recognition is easy. The absence of all Peritonitic symptoms strikes us at once. We must carefully notice the character of the Colic, and inquire into the history. Have there been previous attacks? Is the patient neurotic? Has indigestible food been taken? Has there been exposure to cold? Is the patient subject to Ovarian attacks? We must exclude the pain due to *Gall Stones*, also the passage of stone from the Kidney to the Bladder, and *Lead Poisoning* where the blue line on the gums is characteristic.

The **Prognosis** is favorable.

Treatment depends on the cause. If it arises from Lead poisoning, besides Specific Treatment give internally strong doses of Chlorodyn. Apply Anodynes of Chloroform and Aconite to the stomach. A few whiffs of Chloroform may be given, and hot applications made to the extremities. If it arises from indigestible food,

℞ Chlorodyne gtt. lxxx,
Syrup Rhei f℥ss,
Syrup Rhei Aromatic q. s. ad f℥ii,
M. ft. S.: f℥ij, in aqua, every three hours.

We should relieve the pain by the simplest means possible. In the interval use rigid diet. If Ovarian disease exists, it should be removed.

Intestinal Indigestion. Many of the principles discussed relating to Gastric Indigestion apply also to Intestinal Indigestion. It is impossible to draw the line between them. We are too much in the habit of regarding Dyspepsia as an affection of the stomach alone, and not connected with the Intestines. Intestinal Dyspepsia is—1. Atonic; 2. Catarrhal; 3. Nervous.

I. **Atonic Symptoms. Intestinal Flatulence.** Distention of the bowel with gas *late after meals.* A sense of movement and passage of gas downwards. Eructation does not relieve it. Sometimes the clothes cannot be buttoned. It may interfere with the heart and lungs.

Causes. Fermentation of the intestinal contents and partly want of tone in the walls of the intestine. Disordered Secretion, as shown by Diarrhœa, Loose stools of undigested matter, Diarrhœa which is Catarrhal or Dyspeptic. Constipation may be present. Flatulence is most marked in Dyspepsia of an atonic character. The stools are too rare or too hard. Whenever food is not properly absorbed we have diarrhœa. Constipation is *a condition where there is not one stool daily.* Constipation may cause Impaction in the Cœcum or Rectum. The large masses of fœces may give rise to irritation. We may have Piles from pressure. There is danger of absorption into the blood of effete matter.

Nervous Symptoms. Colicky Pain. Melancholy. Insomnia. Bad Dreams. Seminal Emissions, showing that the Brain and Cord are affected

Kinds of Diarrhoea

1. Dyspeptic
2. Crapulous
3. Lienteric
4. Catarrhal
5. Bilious
6. Serous
7. Colliquative
8. Ulcerative

Diarrhoea - acute & chronic

Acute. Look up.

Chronic results from habitual indigestion. Found often in children & very old people caused also by imperfect mastication of food. There may be a sluggish upper bowel & a constipated lower bowel. There may be diarrhoea for some days & then constipation for some days. This shows a long.

Constipation may be caused by tissue change as catarrh.

In ulcerating diarrhoea is nearly always present.

Chronic Diarrhoea varies in consistency, frequency & amount

a sort of intestine may be passed which may be called sits [illegible]

by absorption or reflexly. Disorder of the Liver and Pancreas play an important part, and we find Biliousness. Fats pass through unchanged.

The **Prognosis** should be guarded.

Diagnosis. Intestinal Indigestion, while due to disordered intestinal functions, often occurs as a symptom of *organic disease*, as in Cancer of the Liver. In Cirrhosis we may have colic preceding the special symptoms.

Treatment principally refers to the Regimen and Diet. Attention must be paid to exercise, dress, bathing, friction, gymnastics, change of residence. The peptones which enter into the Intestine must be in as fine a condition as possible. Partially digested foods are of great value. Check the diarrhœa by modification of diet. Constipation often requires strict attention. The habitual use of purgatives is a frequent cause of intestinal and gastric indigestion. Very mild remedies should be given While we evacuate the bowel the coats of the Intestine may be injured. Give green vegetable matter and a moderate diet of oat meal and farinaceous foods. Order half a pint of hot water sipped in the morning with a Teaspoonful of Carlsbad Salt, or simple salt. If these are no good give Rhubarb, Colocynth, Podophyllon and Cascaria, which acts like Rhubarb. Combine these with a bitter Tonic.

℞ Pulv. Rhei, ǫr
Ext. Colocynth. Co. gr. xl,
Ext. Quassiæ gr. xx,
Ext. Belladonnæ gr. ii.
M. ft.: Pil xx. S.: One every two hours.

Cascaria is a good remedy and does not lose its effects. Begin with doses of half a teaspoonful of the Fluid Extract and taper off to six drops. Barbados Aloes or Aloin, in doses of gr. $\frac{1}{12}$ – $\frac{1}{4}$ is good, added to the others. It is irritating by itself and leaves behind an irritation of the bowel. It acts particularly on the lower bowel. Podophyllon can be combined with Hyoscyamus and Belladonna, in doses of gr. $\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{6}$. These substances should be given in pills. We want them to pass through the stomach undissolved; hence old pills are good. When the stomach is irritable we may give Enemas daily of cold or warm water. Always specify the Temperature. A lukewarm enema is generally best. To it we may add three or four spoonfuls of Olive Oil, Soap, Salt, Infusion of Senna or Turpentine. Tonics are frequently needed; whether Strychnia, Iron, Quinine, Arsenic or Mineral Acids depends on the character of the patient. Cod Liver Oil and Hypophosphites are valuable additions to food, and whatever tends to the restoration of the general health.

The term **Diarrhœa** is used where *evacuations are excessive in number or deficient in consistency*. They vary in *Consistency*. They may be mush-like or semi-liquid, liquid; watery. They vary in *amount*. They may be small or large. They vary in *number*. There may be only one in twenty-four hours or we may have forty a day. They are more numerous in children, and are better borne by them in proportion to the amount of vitality lost than by adults. Diarrhœa is either Acute or Chronic, but it is not easy to divide the two. The Acute form may last a couple of months. There are various forms.

I. **Dyspeptic.** The stools are soft, fœtid, and accompanied with much flatus, but without inflammatory elements.

II. **Crapulous** follows imperfectly masticated food. The stools are semi-liquid and large. They are partly fœcal, and partly consist of undigested food. There is much irritation.

III. **Lienteric.** Here the bowel is irritated. It follows promptly on meals. The food is railroaded through the system.

IV. **Catarrhal** takes two forms. It may be *Acute* or *Chronic*. Besides softness, we have gelatinous and flakey mucus. We have debris of food and Catarrhal elements. When the Colon is involved, mucus alone may be passed. Mucus is not a proof of ulcer, it only shows Catarrh.

V. **Bilious** is chiefly Acute. We have an addition of Bile showing either Morbid Secretion of the Liver or the non-absorption of Bile.

VI. **Serous** is large and pale. It has very little fœcal matter. There may be only Serum barely tinged.

VII. **Colliquative**, terminating wasting diseases, as Typhoid. It is chronic, and causes a rapid wasting of the patient.

VIII. **Ulcerative** may be Acute, but is generally Chronic. The stools vary in number, quantity and consistency. They contain, besides shreds of Mucus, many Leucocytes, recognizable quantities of blood and altered blood corpuscles.

Morbid Anatomy. We find Congestion, Catarrh and enlargement of the Follicles A very important question is the amount of involvement. We speak of **Enteritis**, where the Small Intestine alone is involved, and of **Entero-Colitis**, where the Small Intestine and Colon together are affected. This is the case in most kinds of Diarrhœa—with the exception of the Dyspeptic and Crapulous Forms—so that it is merely a question of degree as to the involvement of the Intestines that makes the difference between these forms of Diarrhœa.

Causes of Diarrhœa. Lienteric is often connected with other morbid conditions, but may be associated with over-eating, indigestible food, etc.

Catarrhal. 1. *Acute.* Wet feet, sitting in wet clothes, shoes, etc.; being caught unprepared by changes of weather; improper food, and in excess. This is the commonest of all ailments. 2. *Chronic* follows repeated acute attacks. Bad air, ill ventilation, excessive hard work.

Bilious occurs in the Tropics and in persons of Hepatic temperaments. A sudden chill is followed by Catarrhal Diarrhœa and then Congestion of the Liver. The intestine itself may be little affected, but be acted on by the bile. The implication of the Liver is the essential feature of this form.

Serous indicates the co-existence of a nervous trouble. It often follows Palsy of the Vaso-Motor System of the Intestines. We have a transudation of Serum. Shock may bring it on. Toxic agencies. It is met with in specific diseases, as Asiatic Cholera. There the stools contain rice like masses of exfoliated Epithelium.

Ulcerative comes from a long-continued catarrhal state of the system. It is brought about by bad hygiene, impure water,. "Camp Diarrhœa" was really a Catarrhal Enteritis, which ran into chronic Ulcerative Diarrhœa from the mal-hygiene of the battle-fields of 1861 and 1862.

Symptoms are **Abdominal Pain**, which is described as cutting, griping, or bearing down. "Tormina" are twisting pains. "Tenesmus" is bearing down. It is confined to the lower bowel. It seldom accompanies Diarrhœa. The pain occurs at different times. It may come on just before a stool. It is worst in the *Acute Inflammatory* Form. *Chronic* Diarrhœa is often painless. **Fever** may be entirely absent. In *Serous* Diarrhœa there may be none at all. It may continue, however, for a number of weeks in *Acute Intestinal* Catarrh, and simulate the fever of other conditions. The fever must be studied. The existence of even slight Catarrhal Enteritis may be attended with a fluctuating fever. **Appetite** varies. In *Acute* forms it

where chronic ulceration exists you may not find blood but will find mucous.
In cancer of the bowel chronic diarrhoea is the rule. here you find slime, also may find blood & here be sure that the upper bowel is not packed with fecal matter;
Make digital examination of rectum for a cancerous tumor.
Treatment of chronic Diarrhoea
Opium & astringents and above are rest.
Injections into rectum of sulphate of Zinc, $AgNO_3$ $CuSO_4$ is severe & weak injections.
10-15-20 drops of nitro-muriatic acid in 1 pint of H_2O
℞ Cinchonidiae Sulph gr XXIV
Morphs. Sulph. ~~gr ½ or gr~~ gr I
Strych gr ½ or gr ⅓
Acidi Muriatici dilut. ℥j ℥j
Syr. Lavender ℥ziij.
aquae q.s. ad. ℥vj iij
℞ Calomel gr iij
Bismuthi Subnit. gr V.
Morphiae Sulph gr I
D in chart XX

Inflammation of bowels or Enteritis
Enteritis when it influences the upper bowel
Colitis " " " " " colon
Entero colitis when both are inflamed

} see further of treat-

is often lost. It may be impaired, or, again, may be morbid and craving. In *Lienteric* we have Pica. The Appetite is most impaired when the small Intestine is involved, since the Pancreas, Liver, etc., are affected. The **Tongue** is coated when the lesion is in the *small* bowel, but if the large bowel is the seat of trouble, Gastric symptoms may be absent. The **Pulse** varies. It may be high in children and nervous women. In some cases of lingering Diarrhœa, glowing of the heart is brought on by a slow Enterocolitis, lasting perhaps for weeks. **General Condition.** By an *Acute Catarrhal* Diarrhœa a patient may be prostrated in a day. If of long duration, we may have Emaciation. The **Skin** gets harsh, dry, and wrinkled. The more the Diarrhœa is in the upper bowel, the better is the system kept up.

The **Diagnosis** of Diarrhœa is very easy in general. It is important to recognize the type, and then distinguish Acute Catarrhal Diarrhœa from *Typhoid Fever*. In Chronic Diarrhœa it is important to recognize the chronic character of the irritation in mild cases. We should be careful not to overlook false Diarrhœa in *Ulceration of the Rectum*. The use of the Speculum will reveal the true condition.

Prognosis is good in Acute and in Chronic forms, except when the Coats are much changed, and in Colliquative Diarrhœa; but if the disease develop a bad Cachexia, the prognosis is sometimes hopeless.

Treatment. Insist on *absolute rest*. The simplest form will resist the best treatment while the patient is on his legs. *Diet* is of the utmost importance. It must be restricted. Cooling drinks must be denied. Give light liquid food. *Therapeutic*. Laxatives may be indicated from the presence of irritating food in the upper bowel, *e. g.;* Calomel, gr. ⅛; Bismuth, gr. v, every four hours. Blue Mass with Rhubarb and Aromatic Syrup, Calomel and Laudanum. *To check the Diarrhœa*, soothing astringents as Subnitrate of Bismuth in doses of gr. x, every three hours or more may be given, and oftener, if the discharges are copious. Where there is Dyspepsia, give Pepsin and Bismuth. We can add Opium, Morphia, or Chlorodyne to the Bismuth.

℞ Bismuthi Subnitratis,
Cretæ preparatæ ℥ii,
Tinct. Krameriæ f℥ss,
Tinct. Opii Camph. f℥i,
Pulv. Acaciæ,
Aquæ Cinnamon, q. s. ad f℥v,
M. ft. S. ℥ii, every three hours in water.

Opium is universally to be used in diarrhœa. We may add it to Vegetable Astringents (in the form of liquid, pill, or powder), or give it per Rectum. Whether in Enema or Suppository will depend on the irritability of the rectum. Give tepid starch water with Deodorized Tincture of Opium. The suppositories should be small. Only in rare instances should we give a hypodermic of morphia by putting it into the abdominal walls. Where there is marked irritability, give Sugar of Lead, gr. ii or iii five times a day in pill with Opium. Nitrate of Silver in pill may be given with Opium, if there is less irritability. When the diarrhœa is *subacute*, we may use Sulphate of Copper frequently in small doses in pill with Opium. Some of the Salts of iron are sometimes given with Opium, *e. g.*, a solution of Nitrate of Iron with Opium, or even Nitric Acid as in Hope's Camphor Mixture, guarded with Opium. But, as a rule, acid substances are not well borne. It is better to use a few astringents with caution than to try too many remedies. When the diarrhœa becomes more Chronic, use astringent enemas in the colon, *e. g.*, Nitrate of Silver, Tannic Acid, the Sulphates of Iron and of Copper. These should be lukewarm. Gradually increase the amount and

temperature. Never prescribe large amounts of an enema at first. Through the longest case, attend to climate, diet, dress, etc , as this is often necessary in order to treat a case effectually

Dysentery is a disease attended with inflammation of the Colon and Rectum, characterized by mucous and bloody stools, and by pains known as "tormina" and "tenesmus." There are various forms. It may be Acute or Chronic.

I. Idiopathic Forms:
   1. Ordinary Dysentery.
   2. Bilious Dysentery.
   3. Malarial Dysentery.

II. Constitutional Forms:
   1. Typhoid Dysentery.
   2. Malignant Dysentery.

These latter forms occur in epidemics.

The **Morbid Anatomy** varies The part affected is the colon and rectum. These are inflamed, injected, and swollen. The follicles are enlarged and the mucous membrane red. Ulcers are sometimes formed, small, oval, or round, or, they may run together in masses. We also find the meso-colic glands swollen and congested. Sometimes in the vicinity of the Ileo-cœcal valve we have congestion of the small intestine. The follicular enlargement comes from sympathy with other parts. In very bad dysentery, the coats of the bowel are greatly infiltrated and softened. The mucous membrane may have a pseudo-membranous exudation (this has been wrongly termed diphtheritic). Sometimes the mucous, submucous, and even part of the muscular coats slough away. Actual gangrene may cause perforation during life. After death, the bowel may be like wet paper, and be apt to tear on attempting to examine it at the *post-mortem*. We occasionally meet with Peritonitis, from Perforation, or from Inflammation. Where recovery of a case with those malignant types of Dysentery takes place, and where there have been extensive ulcerations, cicatricial bands are formed and the bowel may be obstructed by them.

Causes. There are atmospheric changes. Exposure to Cold and damp weather while heated. It is a disease of hot weather. It is more violent in the Tropics. The disease is favored by Bad Drainage and an excess of Soil Moisture, Overcrowding, Mal-hygiene, Impure Drinking Water, and Lowered Vitality generally.

Symptoms. In the Ordinary Form of Dysentery the symptoms may be mild or severe. It begins with a **Rigor**, followed by **Fever** and **pain** in the back and legs. There is a **chilly sensation** felt all over the body. **Cutting pains** in the belly and urgent **calls to stool.** There may at first be **nausea**, but the stomach is not much disturbed. The stools are frequent, but give no relief. There is a **feeling of weight**, burning and oppression **in the rectum.** At first there are fœcal discharges, thin and scalding; a great deal of tenesmus, with griping pains about the navel (Tormina), and gelatinous mucous stools. These soon become pink from admixture of blood. There may be twenty-four to forty-eight per day in the early days. There is an inordinate desire to sit on the commode. Great **debility** ensues. The fever continues and may be quite high. The **belly** is tender and distended, or it may be contracted and cramps be present. As the case subsides the stools are less frequent. Tenesmus, Tormina, Blood, Mucus, etc., become less. Convalescence is gradual. The fever subsides and the case runs a course of from ten days to three weeks. Convalescence is often long and protracted. Relapses are not rare. There is a tendency for the disease to run into a chronic form.

Causes - it is thought to be due to a specific organism.

Morbid anatomy varies from slight ulceration up to perforation
It may be acute or chronic with extensive cicatrization

Symptoms.

acute I Rigors with fever going up to 103° absolutely.
II Cutting pains in belly
III Frequent vomiting
IV Weakness, Restlessness.
V much thirst
VI Fumes of phenic acid

State of Stomach + Upper Bowel in acute D presenting.
Inflame, which stops peristalsis + the large bowel may be
paralyzed. Sometimes vomit contains fecal matter
which can not be distinguished. Tongue furred a loaded
state of the tongue, vomiting. abdomen distended

Terminations of Dysentery
I Healing of ulcer without sequelae
II In death
III Ulceration of bowel with perforation.
IV Maydens chronic ulceration of bowel.
V " " narrowing of bowel from the cicatrix
of the ulcers.

D sequelae from ulceration

Treatment of Dysentery

Acute -

I Heal the ulcers

II Keep the stomach & upper bowel & lower free from irritating & excessive collections.

III Relieve pain & inflamm.

IV Stop discharges

V Restrict the diet

VI Use a gentle sedative laxative as Calomel & opium or Castor oil & opium - all in small doses.

Bilious - I use Ipecac in small doses, 1st until it is tolerated then in larger doses going as high as 20 grs & then coming down to 5 or 8 grs. (for the upper bowel)

For the lower bowel use the rectum 1 oz in adult of the injection always put opium in them. give $AgNO_3$ in same doses. May use bismuth, pie of $AgNO_3$ with opium by the mouth

Chronic - Use both mouth & rectum. may use large injections & strong.

Bilious Dysentery. In addition to the symptoms already named we have marked **hepatic trouble.** Bilious Dysentery occurs in hot seasons and in the tropics. We have here a **coated tongue**, an **icteroid tinge** of the eye and skin. Fullness and **tenderness** of the hypochondria are present. The stools contain vitiated blood corpuscles. There is a **raging fever,** rapid **pulse,** frequent stools and **excessive tenderness** of the belly. The disease often terminates fatally in a few days.

Malarial Dysentery. Besides the above symptoms we have in this a complication of malarial poisoning. It occurs in the Spring and Fall. The fever is remittent in type. The periodic character of the disease impresses itself on the fever and stools. There is a considerable discharge of blood, and it is common for both the Spleen and Liver to be enlarged.

Malignant Dysentery. In the Typhoid and Malignant forms we have a blood poisoning and a fever which runs very high, together with nervous symptoms of an Ataxic or Adynamic character. There is a **feeble pulse, dry, brown tongue,** distended belly, **scanty** and **albuminous urine.** The stools are frequent, liquid and horribly fœtid. They may be brown or black (from altered blood), with shreds of softened slough. The discharges are large and frequent, and often passed unconsciously. There is **delirium,** Muttering, Twitching, Restlessness or stupor. We have, then, Dysentery, associated with a profound Typhoid state, or with a greater degree of vitiation of the blood. We sometimes find these forms associated with a scorbutic taint, and we have hemorrhages from other parts, indicating Dyscrasia. Malignant Dysentery runs a very rapid course and is very fatal, death occurring in five, seven or nine days.

Complications. The most marked is **Abscess of the Liver,** especially in the bilious Dysentery of the Tropics. It arises either from Hepatitis at the start, or from the establishment of a local Pyæmia. We have **Secondary Mumps,** either with or without suppuration. Ulceration of the Bowel may give rise to **Peritonitis,** or there may be cicatrices formed, and these cause **Obstruction.**

Diagnosis. The first point is to distinguish it from *Diarrhœa.* Here there is generally no ulceration, and more involvment of the upper bowel. In Dysentery the lower bowel is affected more and always ulceration, and we have present the Diphtheritic stools, the Tenesmus and Tormina.

The **Prognosis** depends on the type. Ordinary Dysentery is curable. Severe Bilious Dysentery of the Tropics is often fatal. Malignant and Typhoid are very dangerous in a large proportion of cases.

Treatment. I. Acute. The treatment must be suited to the type of the case. The indications are—1. To secure Absolute Rest of the patient. 2. Relieve Inflammation. 3. Check pain. 4. Stop the discharges. The patient must use the bed-pan, and not rise from bed to stool. In rising from bed to stool, the temptation to prolonged straining is greater, and the movements of the bowels are more frequent. All such efforts exhaust the patient and enhance the inflammation. The diet should be restricted to pure Whey and light Broth, Toast water, Barley water, Ice water, Lumps of ice to quench thirst. Use counter irritation along the colon by Mustard Plaster, Leeches and Cups (wet or dry); also, Iodine. In severe cases of Rectal Inflammation, a few leeches around the verge of the anus may be used; but this would not do in Children, or in delicate subjects. To relieve Congestion, give Calomel with Bismuth, or, Castor Oil with Laudanum, in small doses, until a fair stool is obtained. We may give a single dose of Calomel, gr. x, followed by a gentle laxative, as Citrate of Magnesia; or, divided doses of Calomel, *e.g.*, gr. ¼, every three hours; or, Castor Oil, fʒij,

with Deodorized Tincture of Opium, gtt v or x. Give Opium, combined with an astringent, by the Rectum. We may make an enema of fʒi of thin Gum Acacia, with Nitrate of Silver, gr. ½ to ¼, and Deodorized Tincture of Opium, gtts x to xxv. This is preferable to suppositories. Choose a time for giving the enema when the rectum is empty, after a stool. Suppositories are irritating, and are soon discharged.

Small doses of Zinc Sulphate and Copper Sulphate may be given; or, by the mouth, Bismuth Subnitrate, gr. xv, every three hours. We may also give Sugar of Lead or Nitrate of Silver in pill. Always give Opium by the Rectum in addition. We should remember that Dysentery is not a self-limiting disease. By a combination of simple remedies, we soon stop the disease. Where there is engorgement of the liver, as in Bilious Dysentery, give Ipecac in graduated doses, so as not to induce vomiting. It unloads the stomach and liver. Ipecac is a specific in Bilious Dysentery. Give gr. xx of Ipecac in Capsule, or with some liquid. It is not to be employed in Temperate zones in Ordinary Acute Dysentery. When from the season, locality or symptoms you suspect *Malarial Dysentery*, give Bromide or Sulphate of Quinia. Any of the Alkaloids of Cinchona Bark are acceptable. Where there is a tendency to Typhoid prostration, give Stimulants. Turpentine in emulsion, guarded with Opium, checks fœtid discharges and lessens distension of the stomach. Combine with Bismuth full doses of Creasote or Carbolic Acid.

Malignant Dysentery is very fatal. There is profound Blood Degeneration. Carbonate of Ammonia, Quinia, and Diffusible stimulants should be given to rally vital force. Stimulants and Tonics are to be given where we have a tendency of the disease to run into the subacute form. The large and small Bowel suffer after prolonged diarrhœa, and we may have follicular Ulcers in both. In *Chronic* Dysentery, the large bowel suffers more. In both Diarrhœa and Dysentery, we have emaciation, dry skin, and frequent mucous stools, which vary in quantity and contain specks of blood. In the Chronic form, the amount of mucus and blood passed is greater. There is no limit to the duration of the disease. The patient dies from exhaustion and anæmia.

In the **treatment** of the Chronic Form, we must attend to the cause. It may be local, as a Malarial Poison, or arise from coarse food, want of Sunlight, and Fresh Air, or a Damp Soil and Bad Water. Every depressing influence should be removed. A change of residence and climate is of the utmost importance.

Diet. Some cases get well on milk diet. Keep the patient on it for weeks. The milk may be treated with Carbonate of Soda and Pancreatic Ferment. Give Arrow-root, Mellon's Food, Prepared Forms of Barley, etc. Castillion Powders (sago, gum Tragacanth, and soda) may be given. These are slightly astringent. Recovery is often rapid under milk diet with Castillion Powders. In other cases, give scraped or mince-meat, oysters raw or Peptonized, Liquid Cereal Preparations, or eggs, hard boiled, with butter. Diet is very important. We must begin with a restricted diet, after which restrict it still more, if the case does not progress favorably. Adapt the food to the state of the gastric digestion, trying first one, then another line of diet. Opium alone is practically needed in every case. Beware of using too much. Change the modes of its administration, so that the patient may not rely on one form too much. If we use too much opium, we block up the discharges. Rectal Medication is indicated by the state of the stomach. We may give Cod Liver Oil alone or with Lime, Bismuth, and Pepsin, Mineral Acids, etc.

Asiatic Cholera - is an acute infectious disease attended with intense gastro intestinal congestion, catharsis & exfoliations, associated with the comma bacillus & marked by rice water discharges with cramps of the muscles & by collapse.

Causes - The bacillus comma which is found in the discharges & tissues during the disease

Morbid Anatomy - The gastro intestinal canal is congested, corroded &c. The salivary glands are enlarged. There is multiplication of the epithelial cells, with contained comma & the canal filled up in parts resembling rice &c

Symptoms

1 It begins abruptly with slight rigor, febrile reaction, which is not so high

2 Evacuations - are profuse & copious (vomiting & purging)

3 There is spasm of pain, cramps in limbs & chest

4 The appearance changes. The eye becomes sunk, features pinched hands & face shrivelled.

5 Rapid loss of weight

6 The blood is thick & circulates with difficulty & hence the bodily temperature rapidly falls

7 The voice sinks to a whisper

8 The urine is scanty, albuminous with often tube casts & uraemic

9 Fatal cases collapse - this may come on in a few hours or not for a few days. In mild cases it does not come on at all

10 Death may be due from exhaustion, uraemia, inflammations &c

Diagnosis - may be taken for acute irritant poisoning -

Prognosis - is very grave, the worst at the beginning of an epidemic

Treatment - I Prevention
II Hypo of morphine
III Calomel, Opium, Bismuth & Lime
IV Epsom salts warmth
V Diet &c

CHOLERAIC AFFECTIONS.

Asiatic Cholera is an acute specific disease, infectious, but not contagious, depending on some specific poison, attended with copious discharges from the bowels of a "rice water" character, and associated with lesions of the Agminated Follicles and with intestinal inflammation. It is an endemic disease in parts of the East, and West. It extends along the lines of travel. It is very variable in virulence. The nature of the poison is only a matter of speculation. The disease is an acute specific one. It depends on a poison, the nature of which is unknown. It requires a residence in the soil before it acquires its full virulence. It is found chiefly in the discharges. From these, it penetrates the ground and gets into water; or, it may get on clothes, etc. It may be carried in rags, water, or milk. The poison finds entrance to the system through the alimentary canal. We find a Bacillus always accompanying it. Some believe this Bacillus is the true, essential, and indispensable cause. No one denies the existence of the Bacillus. The question is, Does it carry the poison? or is the Bacillus itself the poison? or is the system in that peculiar condition which favors the development of the Bacillus? The disease is infectious through the medium of various articles. We do not take cholera by standing by the patient or handling him; neither is Cholera carried through the air to any distance.

The **Morbid Anatomy** of Cholera is striking. The body presents a peculiar appearance. The skin is shrivelled and mottled. The temperature may rise after death. The surface of the skin is cold. Rigor Mortis is extreme. Even after death we may see muscular twitchings. The right heart is often engorged with blood; so are the pulmonary Arteries, while the left heart is contracted. The Kidneys present Catarrhal Nephritis and marked congestion, and the Liver is engorged. But the most marked lesions are in the alimentary canal. We have "Rice Water" discharges, consisting of exfoliated epithelium in rolls and shreds, with serum. The coats of the intestine are thickened and congested. The follicles are remarkably enlarged, especially in the small intestine, and somewhat so in the large intestine. In the coats of the intestine and in the discharges are found myriads of Baccilli. They are a constant feature.

Symptoms. We consider those of—

1. Invasion.
2. Stage of Evacuation.
3. Stage of Collapse.
4. Stage of Reaction.

The **Invasion** is marked by a slight Catarrhal **Diarrhœa** and colicky pains This stage is called *Cholerine*. In all epidemics there is a previous prevalence of diarrhœal troubles. In many cases it goes no further if the patient takes to his bed and adopts suitable diet and treatment. If this stage is not treated it may lead to the second stage, namely—

Evacuation, which is ushered in by **vomiting** of bile-stained liquid. The stools consist of serum containing rolls of epithelium, looking like grains of rice. These discharges may amount to quarts, or even gallons, in twenty-four hours. With this there is a rapid change in the **features** of the patient. The **extremities** are cool, and they acquire a macerated look, like washerwoman's fingers. Severe **cramps** are felt in the thighs, and colicky pains in the abdomen. There is heat and thirst, and a **burning pain** at the pit of the stomach. The **urine** is scanty, **fever** moderate, and the **pulse** is moderately accelerated at first, then becoming small and weak. The first stage may last two days, and be scarcely noticeable, when the

second comes on. The second may last two or three days. Then comes the stage of collapse. There are cases of dry cholera, where the stomach and bowels contain "rice water" materials which are not discharged.

Collapse. The symptoms of collapse occur because the body is robbed of a great part of its fluid. Here the **expression** becomes more sunken and cadaverous. The eyes are sunken, the lips pale and the surface deathly cold. The **Temperature** in the Mouth, Rectum or Armpit may be below normal. The exhaled air may be colder than the physician's hand. The **discharges** almost stop and the urine is suppressed. What little there is is cloudy and albuminous, with numerous tube casts. Liquids taken may be retained or be gulped up as they were in the Evacuation stage. The patient complains of **internal heat**, though the body be as cold as marble. The **pulse** is small and rapid. **Breathing** is slow and labored. The action of the **heart** is labored and weak. There is utter prostration. The mind is torpid and **collapse** is profound. This stage may end in death. The case may be of a few hours' duration or last six or seven days. If the patient does not die we next have the stage of **Reaction.** Now the breathing becomes deeper, the pulse gets fuller and a faint color appears in the cheeks. The temperature rises; and soon the **fever** sets in, and may run to 101°, 102° to 103°. The stomach is still irritable and vomiting is easily produced. There is thirst and gastric irritability. The "rice water" character of the discharges disappears. The urine is again secreted, but is still albuminous and has casts. Bile reappears in the fœces and the fœcal odor is restored. This stage may be moderate and the patient soon recover, or it may be attended with complications. A good case lasts about ten days.

Prognosis. The mortality of some epidemics shows that about eighty per cent. of those attacked die. Some epidemics, however, have a smaller mortality. In the early part of an epidemic the mortality is greatest.

The **Diagnosis** of Cholera is easy. The sudden onset, coldness, cramps, "Rice Water" Discharges, etc., are characteristic. We might mistake it for *poisoning* when in a given section of country the existence of Cholera is not known; but when once this is appreciated its recognition is very easy. The danger is, at such times everything is thought to be Cholera.

Treatment. The treatment lies mainly in its prevention. Strict cleanliness is necessary. Cholera does not appear in clean communities where water and drainage are good, but where filth abounds and is neglected, it spreads. Under such conditions, the treatment of the disease is futile. When cholera breaks out in any community, strict hygiene should be observed, and careful attention given to the diet and water and the avoidance of excesses. All exhausting measures and cold should be guarded against. If slight symptoms of Diarrhœa appear, they should be treated at once, and the patient kept in bed. At the same time, a careful diet with Opium is necessary. By this means an attack of cholera may be aborted or averted. The stage of Evacuation ensues from neglect of treatment, or, else the treatment has been futile. Some authorities say that the evacuations should be encouraged, but this is a mistaken idea; we should endeavor to check the evacuations which induce the Stage of Collapse. All food should be avoided, scarcely anything being introduced into the stomach. Fragments of ice may be given freely. Opium is necessary, and may be combined with Carminatives. Chlorodyne and a solution of Opium with Hydrocyanic Acid and Chloroform may be used. Also, we may use Plumbic Acetate, Subnitrate of Bismuth, and Calomel. Keep the patient at rest. Hot applications should be made to the extremities But, frequently we have the Stage of *Collapse* and where the discharges almost cease of themselves. Our

Cholera Morbus - is an acute gastro intestinal disorder attended with copious vomiting & purging of green bilious matter with severe cramp like pains & with a tendency to relapse & to collapse.

Morbid Anatomy - There is acute congestion & catarrhal inflammation of the mucous membrane of the stomach & bowels with a special implication of the ganglionic centres & with maybe an organism.

Causes - 1 Hot weather
2 Unwholesome food & water
3 Chilling of the body when overheated
4 An exhausted system

Symptoms
1 A sudden onset with a sense of weakness and cold
2 A febrile reaction which may be short & moderate
3 Repeated & copious vomiting which is 1st food then green
4 Repeated large stools of large amt which are green
5 Later the stools may become serous.
6 Intense abdominal pain (gripping)
7 Cramps in the arms & legs
8 Patient cold & pale (pinched face)
9 Tendency to collapse in debilitated persons
10 Symptoms may last 12 to 48 hrs, patient gets well in from 4 to 6 days.

Diagnosis is very easy - it can only be taken for a case of acute irritating poisoning

Prognosis is good

Treatment
1 Check the evacuations, relieve the pain & stop the tendency to collapse
2 Give an enema of Tinct-Opii 30 drops & starch water ℥ I. also a powder of morphine placed dry on the tongue
3 Give chlorodyne if the discharges are more from the bowel than from the stomach, injected per rectum.
4 Give at once an injection of morphine gr 1/6 & atropine gr 1/100 hypo
5 If you can give medicines by the mouth give very small doses of calomel or

℞ Acidi Sulphurosi gr XVI.
Morph Sulph gr II.
Cerii ox ʒ ss.
Aquae ad ℥ III
Sig. ʒ I every [illegible] when necessary

aim now is to induce Reaction. Opium here is dangerous, owing to the suppression of urine. Use external irritation by frictions and hot applications. Give diffusible stimulants, also alcoholic stimulants well diluted and in very small amounts, as well as hypodermic injections of Sulphuric Ether. The food must be of the very lightest character. The Blood is now thick and tarry, and a vein, if opened, scarcely emits any blood. This suggests injections, into the blood, of saline liquids of a temperature of 100° F. In some cases, the person rallies, but death generally takes place. If *Reaction* should come on, care must be taken to prevent this leading to inflammation. During the fever, the diet should be light and cool. Small doses of Creasote with soda; Salts of Silver and Bismuth can be given. Diluents and mild diuretics are required for the kidneys. Digitalis with weak saline solutions may be given. Jaborandi or Pilocarpin favor secretion by the skin and the elimination of urea. This conducts the patient to the stage of convalescence. Here great care is required on account of the weak condition of the kidneys and of the mucous membrane of the intestines.

Cholera Morbus, or English Cholera, also called Bilious Cholera, is an Idiopathic Gastro-enteritis, attended with vomiting and purging, and copious discharges from the bowels, stained with bile. Death does not often occur, but when it does, the lesions are those of Catarrhal Gastro-enteritis.

Causes. Changes in temperature, the operation of damp and cold, associated with the ingestion of an unwholesome meal hastily eaten; or, a sudden stroke of cold may give an attack.

Symptoms. Vomiting of bile-stained liquid in large amounts. Patients begin with vomiting of—1. Food. 2. Mucus. 3. Bile-stained liquid. There is **purging** of serous liquid stained with bile. In rare cases we have "rice water" discharges. Generally we have particles of exfoliated epithelium. There are severe **intestinal** colicky **pains, cramps** in the calves of the legs, in the thighs, and in the arms. The **extremities** are cold, and the features pinched. There is little **fever,** and the **pulse** is rapid, small, and weak. These symptoms generally last a single day, or may last two or three.

Then comes the *Stage of Collapse*, which is not so violent as that of Asiatic Cholera, but the **breath** of the patient has been known to be as cold. The **pulse** is very small and thready. The **discharges** almost stop. **Vomiting** is very common, and is easily caused by taking anything into the stomach. This stage lasts some hours.

Diagnosis. This disease is easily distinguished from true Asiatic Cholera by—1. The absence of any epidemic, Cholera Morbus occurring in all communities and at all seasons of the year. 2. The character of the discharges. Rarely are they "rice water." 3. Collapse is not so frequent or profound. 4. The Urine is rarely albuminous or suppressed. 5. Reaction is rarely fatal. However, cases of Cholera Morbus may be so violent as to be indistinguishable from true Cholera. The presence of the "Bacillus" is not firmly established.

Prognosis is generally good, except in very severe cases, and in very weak people.

The **Treatment** is very simple. The indications are—1. To allay colicky pains and cramps. 2. To aid in eliminating irritating substances. 3. To heal the gastro-enteritis; and, 4. To check the discharges. It is best at first to give a hypodermic injection of Morphia. If the stomach is not very irritable, we may give Chlorodyne with Rhubarb, or, Calomel, with Bismuth and Morphia. Where you use a hypodermic, put Calomel dry on the tongue, gr. i, every hour, until gr. v are taken. Give small bits of ice and arrow-root, made up with water. Let the patient pursue this with Sugar of Lead

and Opium. Give Bismuth, prepared Chalk Mixture, and Carminatives to check the discharges. Anodyne liniments over the bowels. External warmth, by means of Chloroform liniment and flannel, and hot applications to the extremities will all be found of service.

Convalescence requires care in diet and protection from cold. Such attacks often leave behind them catarrhal dyspepsia.

Cholera Infantum is a Gastro-enteritis, occurring in young children during hot weather.

Morbid Anatomy. We have an exaggerated catarrhal, gastro-enteritis. The brain is often anæmic. There may be a serous effusion into the brain. The tissues of the body are shrunken from loss of serum. This is a passive condition entirely. The chief lesions are in the gastro-intestinal canal, and in both the small and large intestine.

Cause. 1. **Early life**; it is most frequent prior to the first dentition. It is frequent in the first three years of life. 2. **Heat**; a hot spell of a week runs up the mortality rate from an average of 250 per week to 500 or 600; 300 of which are Cholera Infantum cases. A cool wave will take the mortality rate down, perhaps, to 60 per week. 3. **Mal-hygiene,** as bad ventilation, filth, bad food, and neglect, as seen in crowded tenement-houses of the poor. 4. Neglected Catarrhal **Gastro-enteritis**, *i. e.*, neglected Summer Diarrhœa. Some injudicious food given, gives a Choleraic type to ordinary Diarrhœa. It is grafted on to other Diarrhœas, or it may occur as Cholera Infantum from the start. 5. **Debility** and the irritation of teething.

Symptoms are marked by the onset of **vomiting** and purging The **Stools** are large, thin, and serous, and of a sickly unnatural odor; soaking the napkins and leaving a small residue of Casein or Epithelium. They may be stained or tinged with bile. The fontanelles recede, the eyes become sunken, the features pinched, and there is a marvellous change in the physiognomy. The **Fever** is high, ranging from 102° F. to 104° F., and even 105° F., but the skin often feels cool. The Rectal Temperature alone gives you the only means of determining the amount of fever. The child's **voice** grows small and feeble. It frets and whines. The **pulse** is small, weak, and frequent, and the child becomes restless. Not rarely there may be **Cerebral symptoms** present, which, from the resemblance to Tubercular Meningitis, are often spoken of as Hydrocephaloid symptoms. Here they come from anæmia and exhaustion. There is grating of the teeth, the eyes roll upwards, and flushes pass over the face. We have quick **spasmodic movements,** deepening dullness, and stupor caused by the drain on the body. The case ends thus with a resemblance to Hydrocephalous, but we have here exhaustion. The name of this disease should not be applied to Colico-enteritis of Summer. In Cholera Infantum, we have an implication of the nervous system. There must be a local affection of the Ganglionic Centers. There is a copious deluging and transudation of serum from the blood. This helps to explain the gravity of the symptoms and accounts for the rapid induction of the stage of collapse, and accounts for the cramps. We have gastro-enteritis symptoms with paralysis of the vaso-motor centres.

The **Diagnosis** is easy if we limit the term strictly to the above condition. A point of great importance is to recognize the fact that a simple diarrhœa has existed for a time, and which has not been noticed as much as it should have been; further, that vomiting is associated with it, and that the stools are changing their character. At the onset we notice the changes in the stools; they become Serous instead of Bilious.

The **Prognosis** is very bad. A great proportion of children die with the disease. It would be influenced by the heat of the weather. Take the child

6 Externally use chloroform liniment for the limbs in cramp.
7 For collapse give hypo of sulphuric ether.
8 Give food cautiously little at a time.

Cholera Infantum - is a true cholera occurring in infants - It is an acute gastric disorder attended with copious serous stools & also vomiting, with a tendency to collapse.
It is limited to the first years of life - after primary dentition it is rare

Causes -
1 Impure water & food
2 chilling of the body
3 Impure air in crowded dwellings
4 overheating of the body
5 Specific virus

Symptoms
1 copious discharge of serous matter by vomiting & purging
2 Bile & colorless matter may be passed
3 child presents a shrivelled appearance, the fontanelles shrink, the skin is loose, all in 24 hrs.
4 Tempt. central tempt is high 103° - but the extremities and the breath are cold.
5 The cry of the child is reduced to a whisper
6 The stomach is very irritable, also the bowels, so that enemata are retained with difficulty.
7 The urine is suppressed.
8 there is dullness, stupor & spasms.
9 It may prove fatal in 12 hrs or less.

Diagnosis is readily made. it resembles Asiatic cholera but is not so fatal.

Prognosis. is very grave.

Treatment
allay the irritation of the gastro intestinal mucous membrane
check the discharges & stimulate the system.
apply external warmth, to every place
Give $AgNO_3$ in small doses 1/64 gr, to allay the irritation & given by the rectum
Give minute doses of calomel at short intervals & give also stimulating solutions if the stomach will retain them

apply friction to the extremities.

Lithemia -

Cause - Inherited &c

Symptoms -

1 Digestive disturbances - Inability to digest certain articles of food. Gastric digestion is generally not deranged.

2 The bowels are torpid with often some intestinal dyspepsia

3 The stools are dark colored and offensive

4 Urine high colored & high sp. gr. and may contain albumen which is transcient, due often to the diet, or it may be muscular or nervous being produced by exercise of body or mind.

Altered blood pressure may produce the albumen & often in Lithemia we have plethora hence causing albumen.

The Urine may also contain sugar which is also transcient

5 Nervous symptoms are very common, such as dull headache vertigo, noises in the ears, neuralgic pains which may affect the joints

6 Emotional changes are common, the patient being depressed or irritable

7 Vision & memory are often impaired.

8 Often there are rheumatic pain in the joints

The course is a chronic one with liability to acute attacks, but it is not fatal.

Diagnosis - Is very important - It often imitates kidney disease You find lithemia in growing boys of 12 to 17 yrs from gouty parents & here the urine is of high color & high sp. gr. In Bright's disease the urine is low in sp. gr. & pale in color.

Lithemia also imitates many nervous diseases.

Prognosis - is generally good -

Treatment -

1 Diet - mark peculiarities in each case

2 Promote a free action of the skin & improve the muscular tone

3 Study the influence of diet on the secretions, bodily weight &c,

4 Study the exercise both muscular and mental as tho' mental exercise is almost always bad for Lithemia

5 Study what drugs do good, sometimes mild saline laxatives are very valuable such as the mineral waters. Sometimes tonics must be used and the bowel activity brought about by massage friction, electricity &c Sometimes courses of mild mercurials do good, or Mineral acids & bitter tonics.

In some cases Iron may do good but in the majority of cases it makes the patient worse by causing constipation &c.

Bichloride of Hg is sometimes very good in doses of 1/100th - 1/120 of a gr, & in in conjunction with a bitter tonic.

to the seashore if the weather is hot. Bad diet makes the prognosis worse. A child fed by the bottle is more likely to succumb. The appearance of Hydrocephaloid symptoms is bad.

Treatment. Slight Diarrhœas should not be neglected too much. A very young infant may have two or three stools per day normally, but when six months old it should have but one a day. When the eruption of the teeth is going on we should not check looseness of the bowels too quickly. The Diarrhœa is better than cerebral irritation, but it requires watching. When a child teething in hot weather has looseness of the bowels it is in danger of Cholera Infantum. *Preventive Treatment.* Care must be observed in the food, good hygiene and surroundings. If the symptoms, however, should set in, the indications are then—1. To check Discharges. 2. To quiet the stomach. For this use one, two, three or four drops of deodorized Tincture of Opium in a teaspoonful of water. Put a hot napkin outside and about the anus. Internally give minute doses of Nitrate of Silver in Syrup of Acacia. We may give to a child of one year old $\frac{1}{48}$ or $\frac{1}{80}$ of a gr., and from this up to $\frac{1}{24}$ gr. We may repeat this. If the Nitrate of Silver fails give Bismuth by the mouth, and if this fail give very minute doses of Morphia hypodermically; but this should be a last resort. Sustain the child's strength with brandy in carbonated liquid or water. Give pieces of frozen milk, whey, beef tea, iced brandy, water, milk and chicken broth. A little lime water may be used. Put warm applications to the surface to check discharges. If Hydrocephalous symptoms come on stop Opium and give Aromatic Spirits of Ammonia and Camphor.

MORBID CONDITIONS OF THE LIVER.

Gall Bladder. This receptacle with its fundus projects below the liver. The cystic duct is small and the Gall Bladder is very distensible. It is lined with a mucous membrane.

Morbid Conditions. 1. Inflammation of the lining membrane. 2. Obstruction of the Duct and the accumulation of serous liquid in the Gall Bladder, or Dropsy. 3. Formation of Gall Stones. 4. Growth of Neoplasms involving the Gall Bladder.

1. **Inflammation** of the Gall Bladder may come from the presence of sharp, angular Calculi. As a result, we have **pain**, tenderness, and some little **enlargement**, giving a sense of increased **dullness.** We may have **fever**, assuming a Hectic type, the accumulation of pus giving a mild septicæmia. There may or may not be **jaundice.** We may have as much as a pint of pus. The **distension** may be very great, and the Gall Bladder may reach to the navel, giving an ovoid, rather hard, fluctuating, dull tumor, yielding muco-purulent fluid on puncture. In these cases, the coats of the Gall Bladder are swollen, and the mucous membrane shaggy and ulcerated.

Dropsy is associated with obstruction of the Cystic Duct. The mucous secretion goes on, the bladder is distended, and the serous liquid is left behind.

Symptoms. There is a feeling of weight and dragging. The Gall Bladder is dull on percussion and fluctuating on palpation, but *without symptoms of inflammation and septicæmia.* The walls are thin, and the mucous membrane smooth, but the Cystic Duct is short. We may draw off a pint of fluid.

The **Diagnosis** is easy. We have a tumor in the right Hypochondriac region. Its connection with the Liver, smoothness, outline and Fluctuation

show that it is the Gall Bladder. A puncture shows simple serum, or the result of inflammation.

The **Prognosis** is uncertain. Where suppuration occurs, the case is more serious.

The **Treatment** consists in evacuating the contents of the distended Bladder or Gall sack. First, we should make a puncture, and, if we get pure serum, draw it off and let the Gall Bladder alone. If it fills again, pass in a delicate probe to see if there are Gall stones. If a Gall stone is present, it must be removed. If no stone is found, insert a Drainage Tube and allow the opening to close by adhesions. If the contents are purulent, empty and wash the Bladder out antiseptically, and introduce a Drainage Tube.

The formation of a **Neoplasm** is a part of Cancer of the Liver, probably.

AFFECTIONS OF THE BILIARY DUCTS.

We have in the Liver a system of hair-like tubes growing larger as they approach the transverse fissure, and then uniting to form the Bile Duct. These have the usual coats lined with mucous membrane. They are exceedingly numerous fine tubes. Through them passes constantly, irritating Bile. The common Bile Duct empties into the Duodenum (about four inches from the Pyloric end of the stomach) and has morbid symptoms in sympathy with it; or, affections of these ducts may occur primarily.

Inflammation. We have—1. Traumatic, from a blow, or Calculus. 2. But here in this locality, it is Catarrhal It is due to an extension of Catarrhal Inflammation from the mucous membrane of the Duodenum.

Obstruction may take place at any point, either in the very fine ducts or in the common Duct, which is of much larger size. It may be caused by inflammation of the mucous membrane, giving rise to occlusion; or, obstruction may take place from outside pressure, *e. g.*, from the head of the Pancreas; or, a tumor may form in the Fissure of the Liver; or, in the substance of the Liver. These are the most common Morbid Conditions.

The **Causes** of Biliary Affections are: 1. Catarrhal Inflammation which has a close connection with Gastro-enteritis. 2. It may be caused by Gall stones.

Anatomical Conditions. The Ducts are dilated above the inflammation. The walls are thickened and the opening is narrowed. At the Post-mortem, we find signs of obstruction which can be removed, and thin Bile can be pressed out into the Duodenum, showing that there has not been mechanical obstruction, but that the *vis a tergo* was not sufficient to overcome it. Sometimes the mucous membrane is corroded with decomposed Bile. When this has lasted long, the inflammation spreads to the surrounding cellular tissue, and a Chronic Perihepatitis is set up. In some cases, we find little collections of Pus, and on opening the liver, we have little pockets of Pus at the ends of the terminal Ducts.

Symptoms. 1. Acute. 2. Chronic. The most prominent is **jaundice** from obstruction, which comes on with symptoms of Gastro-Enteric Catarrh. There is **pain** and tenderness over the region of the Gall Bladder and Ducts. There is moderate **fever.** The case usually runs a favorable course, but sometimes is followed by recurrences. Here, too, is left behind a thickened, weakened and irritable condition of the mucous membrane. Sometimes there are recurrent spells of Catarrhal jaundice, and accompanied with spasmodic pain from closure of the ducts above. This may resemble

Catarrhal Hepatitis / Acute / Chronic

A catarrhal inflam. of the ducts of the liver with swelling & obstruction of the ducts & retention of bile. After have jaundice, fever, liver enlarged, there may also be spells of severe pain. Ascites does not occur or only at a late stage.

Causes - 1 Common causes of catarrhal inflam., with a disposition to liver weaknesses.
2 Chill overheating of the body
3 Irritating food
4 Common at the menopause
5 Occurs at all ages

Morbid Anatomy. The tissues become thickened & swollen causing occlusion of the tubes, if the obstruction lasts long enough there must be dilitation of the tubes beyond. The tubes become irritated & may ulcerate & cause blood poisoning & septic fever.

Symptoms - 1 Begins after gastro intestinal catarrh or primarily
2 Jaundice begins as soon as the bile duct is closed
3 Pain & tenderness over biliary duct —
4 Fever of moderate height —
5 Loss of appetite, there may be gastric catarrh
6 Secretions stained with bile
7 Feces yellow & clay colored
8 Itching of skin from irritation of the bile

Course. Mild form 1 week to 10 days. If severe the course may be 6 weeks or the condition may become chronic

Chronic Catarrhal Hepatitis - A continuation of the acute form or from many acute attacks. It may last a long time & is marked by recurring acute spells. The jaundice may be slight all along. Digestion may be good. There are sharp severe pains, often vomit, urine becomes dark brown. There may be formation of gall stones

Treatment of Both Acute & Chronic

1. Expectant
2. Rest in bed warmth
3 Counter irritation over liver

4 Light diet

5 minute doses of calomel + bismuth

6 $HgNO_3$. It takes 25 grs of $HgNO_3$ given in a continuous course to produce staining of skin when you get a line on the gums stop the $HgNO_3$ but after a time you may give it again

In Acute Catarrhal Jaundice we use alkalies as Phosphate of Soda after stopping the calomel. Olive oil does much good in such cases

Gall Stones are made up of the salts + coloring matter of the bile when they get into the ducts they cause spasm + jaundice by obstructing the ducts

Symptoms (1) colic - spasms

(2) Very violent pain

(3) Vomiting

(4) extremeties cool

(5) pulse weak

(6) Jaundice in a few hours

(7) May result in inflammation.

Treatment - Morphia + Atropia hypodermically chloroform or ether

Sedatives Electricity &c

the passage of Gall Stones, and we can only make the distinction by searching the stools for stone. This distinction is of great importance. Severe paroxysmal Hepatic pain is of great diagnostic importance. Where there have been recurring attacks there may be a condition of Chronic Catarrh, with more jaundice, increasing or decreasing. Lastly, in some cases of Catarrhal jaundice, where there is obstruction, the bile decomposes, is absorbed, and causes **Hepatic Fever**; but it really is Septic Fever, from decomposition of Putrid Bile. We have high fever, rigors and sweating. This is grave, yet the patient sometimes recovers, even when the morbid condition has lasted a long time. Sometimes this is initiated by fever, which attends a slow process of ulceration. The whole Gall Bladder may be eaten away, during which there is hepatic fever.

Diagnosis. Distinguish between the slow process of colossal calculus and the process described above. Recognize the obstructive character of the jaundice.

The **Prognosis** is good in ordinary cases. It is fatal if severe.

Treatment. Argentic Nitrate, with Opium, Belladonna and mild Salines. Convalescence must be watched, as there has been a Gastro-duodenal Catarrh. This must be overcome; hence, care is needed. In cases of recurrent Catarrhal Inflammation, with recurring spells of Jaundice, and where the existence of Gall stones is excluded, we must pay strict attention to Hygiene. If the patient gets out of bed and puts his foot on a cold floor, or a single blast of cold, damp air strikes him, he is jaundiced. Let him wear a Liver Belt. In most of these conditions, a band of flannel should be worn around the trunk. This has been found so useful in Tropics. Let the belt be ten inches in width. The feet must be kept warm and dry, and care exercised in diet. There is a tendency for the Bile to become inspissated. The patient may use diluted soda solution (the Sulphate) or Carlsbad water. Send him to Carlsbad. We may also try continued counter-irritation. The Gums may get blue from Argentic Nitrate. Less than gr. lxxx never produces staining. When you give gr. xxx, stop one month; then give a course of gr. xx; then stop again, and so on, giving Iodide of Potassium and Dilute Hydrochloric Acid in the interval. Give ¼ gr. three times a day. Give Phosphate of Ammonia, Muriate of Ammonia, and Mineral acids.

Gall Stones. These are concretions which form at some part of the Biliary Passages, at any point from the smallest radicle to the Gall Bladder. The Gall Bladder is the most frequent seat, as the Bile lies stagnant here and has some difficulty in getting out. Being rich in organic matter, it forms layer after layer, and a stone grows rapidly. They are formed by Pigment and Cholesterin, or of Bile salts with varying amounts of mucus. They are formed by concentric layers, varying greatly in number. One stone may fill the Gall Bladder, or there may be three thousand of them. In these latter we find facets. The facets are smooth, showing friction. The size of gall stones varies from that of a gravel to several ounces. In color, they vary from the pure white of Cholesterin to brown or jet black.

Causes. A thick **state of the Bile** and a sluggish flow. A thick state of the bile is due to High Living, Rich Food, **Inadequate Exercise,** and a sluggish habit of body favoring Portal Obstruction. At the **Menopause** there is a liability to Gall stones. The Menstrual discharges being checked, women get fat, and venous congestion occurs. Anything which gives rise to obstruction, as Cancer, causes Gall stones. **Inflammation** of the Mucous Membrane, as Pyelitis, disposes to Renal Calculus.

Symptoms. 1. Those of the Quiescent state; and, 2. Those during the Passage of the Stone. We commonly think most of the symptoms as manifested during the passage of the Stone. There is Hepatic Colic. There is acute **agonizing pain** in the region of the Gall Bladder, often *extending to the right shoulder blade.* The patient has **cramps**, associated with aching at the top of the right shoulder. The feet, hands and features are cold, and there is a sense of **great prostration.** These symptoms last while the stone is passing. It may occupy a few minutes, hours, or even some days. Very soon the Obstruction causes **jaundice,** and the next stools, which are clay colored, show a want of Bile. An attack of obstruction from Gall stones is apt to be recurrent.

Complications of Gall Stone. The most serious are—1. Rupture of the Gall Bladder or Duct, and the development of Peritonitis with a fatal result. 2. After each attack, the Gall stone falls back into its receptacle in many cases, and there may be many futile attempts to dislodge it. 3. The Gall stone may stick permanently in the Duct. If it be a small duct, this need not cause death, the Bile passing, in the meantime, through the other ducts; or, the stone may be of such a shape that the Bile passes by it. 4. Finally, there may happen a long series of ulcerations.

The **Diagnosis** is made—1. By the position and direction of the pain. 2. By the appearance of Jaundice. 3. By the stone appearing in a stool.

In *Renal Calculus*, the stone comes from the Kidney. We have no Jaundice. The seat of the irritation is in the Pelvis. There is inflammation of the Urinary Bladder, with bloody urine. In Hepatic Colic, the pain is in the shoulder, and also this is the case in Intestinal Colic; but there is neither frequent Micturition, nor Hæmaturia, nor Biliousness. To make sure, we subject the stools to careful search for stone by mixing the fæces with water and passing them through a sieve. This is the Crucial Test. 2. Sometimes patients have pains resembling Hepatic Colic, but no Jaundice follows. The question then arises, whether this is Colic or Gall stone. We must here search the stools for stones, and if we find none, and the symptoms have passed away after a spasm, we cannot assert that there is no Gall stone present. It may have have rolled back into the Gall sac. 3. The *Nature of the Jaundice*, when it occurs, may have to be diagnosed. Here we must refer to the History of the Case. If the case presents paroxysms of pain there have probably been Gall stones. If no pain there have been probably no Gall stones. We must use critical palpation. Exploratory punctures may be made with a delicate stilette.

The **Prognosis** is favorable. Still the patient is sure to have more spells. Patients are now living and well from whom fifty Gall stones have been taken.

Treatment. We consider—

1. An ordinary Attack.
2. An extraordinary Attack, with Incarceration of the stone.
3. The Interval.

As regards the *Preventive Treatment*, it would be well to reduce the condition of obesity in stout patients, and prevent the occurrence of Gall Stones.

The Attack. The indications are to relieve pain and relax the muscles. Use hypodermic injections of Morphia and Chlorodyne, or suppositories of Morphia. It may even be sometimes necessary to chloroform the patient, and to make hot applications and fomentations around the part. The agony is not very long. The stomach must be kept at rest. Treat with mild counter-irritations, alteratives and sedatives until the jaundice disappears. *In the interval* patients are rarely in good health, therefore give but

little butter, sugar or alcohol, since these tax the Liver, and thus tend to cause congestion. Fruits, vegetables and light meats may be given. Moderate exercise must be insisted upon. Salines, as Sulphate of Soda, must be kept up, and Carlsbad water should be given before breakfast and at bed-time. If there is irritation of the Ducts keep the patient on Nitrate of Silver, alternating with Phosphate of Soda, Muriate of Ammonia, Mineral acids, etc., and keep up counter-irritation. Even though stones are still present, this treatment will eventually assist in their removal. Where the Gall-stone is too firmly fixed (during its passage), keep the patient on Opium and Careful Diet, hoping that the stone will eat its way into the Duodenum. If irritation is not too severe, so as to cause exhaustion, and the patient has good health, we can afford to wait. But if symptoms are very urgent you must raise the question of operating. But first decide between impacted calculus and other organic disease. The operation for the removal of Gall stones has of late years been very successful.

Jaundice is a pathological condition, in which the Bile elements are in excess in the blood and stain the tissues and secretions. It may arise from Obstruction, the Bile formed by the Liver not being able to get out, and reabsorption taking place. We find very pale Fœces when the Bile is partly cut off. In other cases the jaundice is from suppression of the functions of the Liver. The Liver is not in a condition to receive all the elements of the blood. The urine, while it contains pigment in both cases, contains more salts from Obstruction than when the jaundice is from suppression. These salts are formed in the Liver. This is a useful, but not an entirely reliable point. In suppression we may have Nervous Symptoms. In jaundice from suppression the liver may have undergone—1. Fatty Degeneration. 2. Acute Yellow Atrophy. 3. Rarely, in some cases staining is from the liberation of altered blood pigment, *e. g.*, in Yellow Fever. The same thing is true in the jaundice of Malaria and Pyæmia. On the other hand, in these diseases local affections of the mucous membrane are common, and we may have an affection of the mucous membrane of the Liver and Duodenum. In relapsing Fever jaundice is frequent and intense, owing to local inflammation of tiny Bile Ducts.

The **Prognosis** is altogether dependent on the cause. Catarrhal jaundice is a simple matter; but when it arises from obstruction of the Bile Ducts and general disease of the Liver, it is very dangerous. Where cancer of the Pancreas would obstruct all the Ducts, the prognosis would be hopeless.

The **Treatment** must be that of the cause. Jaundice is a complicated and interesting symptom; not a disease.

The pains may be neuralgic, and we have **Hepatalgia**, *i. e.*, Neuralgia of the Liver. The chief importance lies in its Diagnosis.

The **Causes** are the same as those of general neuralgia, together with a Hepatic Temperament. The system is reduced by disturbances, such as the Menopause. It is more common in middle-aged women and in men who have been hearty eaters and who have been broken down by over work.

Symptoms. The pains are neuralgic in character. They occur in Paroxysms, and are located at the liver in the median line and on the right side. The pain is not so severe as in the Passage of Gall stones. Vomiting is not usual, but may occur. There is nothing like the collapse which attends passage of Gall stones. Neuralgia of the Liver is not followed by Jaundice. Attacks are liable to recur, and the usual time for recurrence is towards evening. They may last into the night, and they may or may not be influenced by eating. Sometimes, however, indigestible food brings them on.

The **Diagnosis** is interesting. I. The pains must be distinguished from those of *Gall stones*. The pain is not so severe, and there is not local tenderness over the Gall Ducts, and there is no jaundice. On searching the stools for stones, none are found.

II. *Gastralgia*. Here the location of the pain is to the left and up the left side to the arm, and may simulate Angina. Gastralgia bears a relation to the articles of food taken and to the hours of meals. The patients who, in case of gastralgia, present neuralgic tendency, differ from those with a tendency to Hepatic trouble.

The **Prognosis** is favorable if the Diagnosis is secure.

The **Treatment** should be—1. For the *Neuralgia;* and 2. For the *Hepatic Congestion*. Mild Salines are to be used and the diet restricted. Counter-irritation is to be applied over the Liver. Such remedies as Hydrocyanic Acid, Valerianate of Zinc, Arsenic and Belladonna are valuable internally. These attacks are often associated with Malaria. Then we give doses of Quinine and Arsenic—full, anti-periodic doses.

Congestion of the Liver is rather a vague subject. We must consider with it Leucæmia, Biliousness and a Hepatic Temperament. Congestion of the Liver is usually passive. This is due to Obstruction. Active Congestion is rarely met with.

Causes. 1. Mitral Stenosis, or any heart disease. This acts on the circulation in the Vena Cava and affects the Liver. 2. After Pulmonary obstruction we get Hepatic Obstruction. 3. Eating too much and taking indigestible food are causes. 4. The Abuse of Alcohol produces a tendency to torpidity of the liver. These overtax secreting power and lead to engorgement and congestion of the Liver. 5. If the diet is such as to promote it, we also meet with it where there is a tendency to Hepatic Congestion. Such people have a Bilious or Hepatic Temperament. We are accustomed to associate this condition with those having a quick circulation, dark skin, dark and abundant hair. We find it as well in people who cannot eat certain foods and cannot bear nervous strain. The condition is also found in Blondes.

The **Symptoms** of Passive Congestion of the Liver vary considerably in Heart disease. The Liver becomes **enlarged.** The edge is below the ribs. It is very firm, and there is a sense of dragging and of tenderness in the right side. When there is no mechanical cause the Liver may not be visibly enlarged, and can only be detected by palpation and percussion. The **digestion** always suffers, and is slow and labored. There is usully **Flatulence,** torpidity of the Bowels, and a tendency to **Hemorrhoids.** The **urine** is highly colored and throws down colored deposits of Phosphates. The **Complexion** may be muddy and the eye icteroid. Owing to imperfect digestion we have numerous **nervous symptoms.** Fatigue is easily brought on. There is great Depression of Spirits, often tending to melancholia and a morbid dread. There is disturbed sleep, bad dreams and dull **Headache.** We recognize many of these symptoms in their early stage as those constituting Biliousness. We are apt to refer these symptoms to debility and nervous exhaustion. We often give to this condition the name of *Lithæmia*, which is closely associated with congestion of the Liver. We group under the name the above symptoms of indigestion, nervous symptoms, etc. When Lithæmia is present we have a marked tendency to **Dizziness** and frequent occurrence of **dull pains** in the extremities, articulations.

The connection between Lithæmia and Gout is clear. It is an expression of Lithæmia. We have here an inherited or acquired tendency to derangement of the Liver with nervous symptoms of a varied character.

Congestion of the Liver - may be acute or chronic, or it may be active or passive. The passive is the form we have to treat, it is a condition of venous blood in the liver.

Causes
1 Mechanical - as obstructive heart diseases, occurs when the heart is weak as in a fatty heart.
2 Sedentary habits
3 Habitual excesses in eating and drinking
4 Plethora or imperfect circulation

Morbid Anatomy - There is enlargement of the venous plexus with increase in the size & weight of the organ
On cutting the intralobular vein is found distended & the surface mottled with dark spots & lines, hence called nutmeg liver. This is seen in cardiac stasis
There may be fatty infiltration & then the organ is pale

Symptoms 1 Sense of weight & distress in region of the liver with moderate tenderness
2 The liver may pulsate in some rare cases
3 The portal system is engorged & hence there is a tendency to piles & gastric & intestinal irritation
4 There may be symptoms of jaundice
5 The congestion may cause ascites

Prognosis - It may last long & may return but it is not fatal

Diagnosis - must be made from cirrhosis

Treatment - Must be adapted to the nature of the case
1 If cardiac regulate the heart's action and improve the circulation
2 Rest, Diet, exclude sugars, fats, alcohol &c
Give saline laxatives, Mild mercurials sometimes
Tonics, Mineral acids, Strychnia &c

diseases of the liver 2 forms - simple large abscess +
multiple abscess -
the simple large abscess is rare in the climate but common
in the tropics. it may come from ulceration of the bowel
Symptoms (1) Irregular intermittent type of fever enlargement
of the right lobe
(2) pain + tenderness
(3) Enlarged liver

The **Diagnosis** between—1. Serious organic Nervous disease and where there is Vertigo and Intra-Cranial disease; and 2. Deranged Liver, is important. This condition often paves the way for Melancholia. Its influence in the production of Nervous Symptoms cannot be overrated. As regards the Hepatic and Digestive condition, the Diagnosis is easy. It is only necessary to examine the Urine, the Rectal Veins, and to palpate the Liver.

Treatment. Passive Congestion is amenable to treatment. In cases of obstructive Cardiac Disease, adapt the diet to the condition of the Liver. By modifying it, Dropsy and Hemorrhage, which have resisted Digitalis, will readily yield when you have modified the engagement of the Liver. Study the amount of exercise, and let it be proportionate to the patient's strength and ability to take food. Omit those articles requiring great power of digestion, and thus causing Hepatic interference. Use Mild Saimes to promote Bile Secretion, and Blue Mass to remove secretions from the upper Bowel. We can order Blue Pill gr. ii–iii once in two weeks. Hepatic patients bear mercury better than others. Very many persons of advanced years attribute their health to taking gr. x every week. Endeavor to promote free circulation of the skin. Pay attention to care in dress, and the constant use of invigorating baths. A dry climate is often essential. With the above continue Mineral Acids and Strychnia to give tone to the system. Active Congestion and true Hepatitis are rarely met with in this country. We rarely see these inflammations of the Substance of the Liver terminating in Resolution or Suppuration. This occurs most frequently in the East Indies.

Hepatitis occurs in those who are functionally deranged or enfeebled by excesses. Its Causes are violent atmospheric changes in Tropical Climates. Its onset is marked by **Chills** followed by **Fever,** which is of an irregular type, attended with marked **Disturbances of Digestion.** There is **Pain** and **Enlargement** of the Liver. The **Urine** is scanty and high colored, and loaded with Urates. The **Pulse** is not as rapid as the height of the Fever would indicate. In all Liver diseases where Bile is retained, the Pulse is slow. The Bile depresses the heart. If there is to be Resolution, the disease terminates in nine days: but often from the fifth day the Fever assumes a Suppurative Type. There may be slight Chills and Sweating in the night. The Pain increases, and we have the **Formation of an Abscess.** If swelling occurs, there is some prominence on the surface. If the abscess is deep-seated and there is dullness on Percussion, it should be evacuated. It may burst into the Abdomen, be encapsuled or be connected with Stomach, and the patient may die.

The **Diagnosis** would be difficult in America. In India it is very prevalent. An exploratory function will confirm a doubtful diagnosis.

The **Prognosis,** with appropriate Treatment, is good. Very many cases survive.

Treatment. The indication is to break up the Inflammation by rigid Rest and restricted Diet. Give cooling drinks. Quinine and Mercury. If the Fever persists and assumes a suppurative type, the Liver should be opened.

Abscess of the Liver, as we see it, is a different affection from that which is brought about by Hepatitis. They may be simple or multiple.

The **Causes** are—1. **Hepatitis** in rare instances. 2. **Dysentery** where abscesses are secondary productions. 3. Repeated severe spells of **Catarrhal Hepatitis** where the dilated tubes are full of bile. 4. The Passage of **Gall Stones.** 5. It may follow a severe **strain** or crush. 6. It may only be part of a general **Pyæmia.** With regard to its frequency it is rare. Attempts have been made to show that in Lithæmia we have a deep-seated

abscess. It is rare in this country except as a part of Pyæmia. It is important to remember that in Peritonitis the upper surface of the Liver is a frequent seat of Peri-Hepatitis.

The **Symptoms**, if mixed with those of general Pyæmia, need no special mention. Where there is an idiopathic abscess of the Liver we find **Fever** protracted, and of an irregular type but not very high. There is a moderate **elevation of the Pulse.** Slight or marked **Jaundice.** Loaded **Urine.** Deranged **Digestion.** Local **pain** in the Liver, and an **Enlargement** of some part with or without prominence. In some sub-acute cases the symptoms are very obscure.

The **Diagnosis** is very obscure. It certainly depends on the full development of the symptoms.

The **Prognosis** is very grave. When it is a part of Pyæmia, it is, of course, fatal.

Treatment consists in the evacuation of the abscess. The chances of its spontaneously rupturing in a safe place are small. It must be located and evacuated. A large Canula and drainage-tube should be inserted and antiseptic treatment adopted. When it is not clearly located, it should be explored with several antiseptically treated Canulæ.

Cirrhosis *is a Chronic Inflammation of the interstitial Connective Tissue of the Liver attended with enlargement and subsequent contraction of the organ.* There are symptoms of Portal Congestion, and it is characterized by Dyspepsia.

Anatomical appearance. We have an Inflammation of Glisson's Capsule. Bands of Connective Tissue are formed which press on the Veins and Bile Ducts. The veins suffer most. The Liver is at first harder and enlarged but as with all hypertrophy of Connective Tissue, it undergoes contraction and condensation. It may be compressed to one-half its size. This is **Atrophic Cirrhosis.** The Lobules or Acini are contracted. In the interior the Acini may be atrophied and pale, those on the surface are thrown into prominent relief. This gives the so-called Hob-nailed appearance. These nodulations may be either very fine or very coarse. In other cases the Cellular Tissue may continue to develop and then be deposited amounts of fats on the bands of hypertrophied Connective Tissue. This causes **Hypertrophic Cirrhosis.** The Capsule is thickened. The trunks of the Portal Vein, great and small, are dilated from long standing pressure and obstruction to the blood going through the Liver.

Causes. 1. **Sex.** It is more common in men owing to their habits and exposure. 2. **Age.** It is most common in middle life. 3. **Locality,** dependent on the kind of liquors most frequently in use. Light wines and beer do not produce it. In England it is known as the Gin-drinkers' Liver. 4. **Extension of Inflammation** from the ducts to the interstitial substance. Thus it may follow Catarrhal Inflammation in Measles, Prolonged Catarrhal Hepatitis, etc. 5. **Alcohol.** The connection between the excessive use of crude spirits and the occurrence of Cirrhosis is close. When taken undiluted it is absorbed and passes through the Portal Vein, thus exciting a Catarrh of the Mucous Membrane.

Symptoms. I. We first have a Stage of Dyspeptic Trouble, which is caused by beginning obstruction giving rise to Gastric congestion and Disarrangement of Secretion. Gastric Symptoms are extremely marked and may last for years. We have **Morning Nausea.** Mucous **Vomiting, Flatulence** and **Coated Tongue,** *i. e.*, all the symptoms of Catarrhal Dyspepsia.

(4) Jaundice is variable not being constant
(5) abscess varies much in size
An exploratory puncture should be made
A multiple abscess is generally pyaemic
Diagnose it with the needle thus finding pus
Treat by evacuation

Cirrhosis of the Liver or Interstitial Hepatitis is inflam of the interstitial tissue of the Liver attended with induration & then decrease or permanent increase in the size of the organ, with marked digestive disturbance ascites, impaired nutrition & ending fatally
There are two forms - one attended with increase and then decrease in the size of the organ - Atrophic form.
And one attended with permanent increase in size of the organ - Hypertrophic form.
Morbid Anatomy - engorgement & swollen conn: tissue ... causing enlargement of the organ.
In the atrophic stage the conn tissue contracts & the organ hardens, pressing upon the lobules, so that the surface becomes lobular hence named Hob nail Liver
In the hypertrophic form the conn tissue is inflamed & swollen to an intense degree. there also is fatty infiltration & deposits of fat. the vessels of the lobules become reduced & the organ may be very large
Causes 1 Irritant effect of alcoholic excess
2 Drinking undiluted spirits on an empty stomach
3 Habitual congestion & irritation of a catarrhal type, here the inflammation starts from the vessels of the bile ducts.
4 May occur in little children but is rare

5 Syphilis does not give rise to true cirrhosis.

Symptoms - I a premonitory stage
II a developing stage
III a stage of full development.

In the 1st stage we have symptoms of hepatic congestion and gastric catarrh as nausea, coated tongue gastric irritation &c

In the 2nd stage we find the liver enlarging. with a tendency to hemorrhoids. Urine is [illegible], colored & loaded with uric acid. this stage may last for a long time. in this stage the patient's health fails.

In the last stage - the liver may now contract as in the atrophic form & the area of liver dullness decrease

In the hypertrophic form the liver keeps on increasing

Bleeding of the nose is a common symptom. The patient may vomit blood. Dropsy in the belly may occur. The veins of the abdominal walls become prominent. as the symptoms develop gradually

Death occurs from exhaustion &c

Jaundice is not a symptom of cirrhosis especially not of the atrophic form. It however may occur

There is no fever & not much pain in cirrhosis

Diagnosis - is very important - give the patient the benefit of the doubt and treat a case as cirrhosis especially if the patient is addicted to alcohol

the previous existence of gastric catarrh may cause it

Diagnosis from congestion of the Liver:- if you can't diagnose treat as a case of cirrhosis, in congestion the symptoms are not near so marked. see what a strict diet will do it will relieve congestion but not cirrhosis

From Abscess of Liver - here you will have pain & fever

From Cancer. here the liver is large with pain but cancer causes an irregular enlargement of the liver & the surface is not so granular. Dropsy is absent in cancer

From Syphilis of Liver - here you have enlargement with gumma both inflammation & thickening of capsule & adhesion to the peritoneum & lobulating. make the diagnosis by the

II. Next comes **Enlargement of the Liver.** Its surface is smooth. The edge may come lower than normal or go up higher into the Chest. There is **Pain** in the Hypochondriac Region, of a dull character, and a sense of weight.

III. Next come **Symptoms of Obstruction.** We find **Hemorrhoids** either dry or bleeding. The **Veins** of the Abdomen enlarge. The **Abdomen Swells** from Ascites or Peritoneal Dropsy, these conditions are brought about by the Fibrous Material in the Liver compressing the vessels and damming up the blood. We may have **Hemorrhage** from Piles or from the lower Bowel or from the Stomach. *Gastric Hemorrhage is a most common symptom.*

IV. Meantime the **Liver decreases in size.** It does not project any longer below the Ribs. The vertical line of dullness becomes less even, before it goes under the ribs we may feel the granulations, of course **Nutrition** suffers. The patient becomes **weak** and loses flesh. **Anæmia** sets in. The leg swells. The tendency to **Dropsy** increases, and to effusions into the Pleural cavities. Death occurs from Exhaustion, Intercurrent Hemorrhage, or Diarrhœa, or Internal Obstruction.

Course is from six or seven months to as many years.

Ascites *is a Serous Effusion into the Cavity of the Peritoneum.* We recognize it by the symmetrical and progressive **enlargement** of the Abdomen, which begins below and extends upwards. The **Dullness** on Percussion *changes with posture.* Over the upper part of the abdomen there is **Tympanitic Percussion.** This also *changes with Position.* The **Umbilicus** pouts. The **superficial veins** swell from Poupart's Ligament to the Hypochondriac region. Where the branches from the Superficial Epigastric and Internal Mammary meet, there is great obstruction. A Collateral Circulation is set up, and blood passes into the heart without going through the Liver. A reversed Venous Current there indicates a high degree of obstruction. The affect of Ascites is to push the Liver up. It may rise to the third interspace or line of the nipple. It is hard to determine where the Liver begins and the Fluid stops; the presence of Ascites obscuring the development of Hepatic dullness. The effects of Cirrhosis of the Liver on nutrition are so great that the Anæmia is intense. The wasting of the flesh may be great or small. Sometimes there is not enough blood to form Dropsy.

The **Diagnosis** of Cirrhosis in the early stages is impossible. The symptoms of Gastric Catarrh become first marked. Soon the Liver Enlarges, and then we can detect it. If at this stage we can impress the patient with the certainty of his doom and so stop his habits, and treat the case, there is some hope. The more advanced stage is diagnosed by the presence of Ascites, but Ascites may also come from Portal Thrombosis or Syphilis. We observe the Pouting of the Umbilicus. The reversed Venous Circulation. In order to get an idea of the size of the Liver we may have to draw off the fluid.

Prognosis. If taken in its early stage, it may be checked and removed; but if the disease is fully established a cure is impossible, and then all that can be done is to establish an equilibrium between the other parts of the body.

The **Treatment** of Cirrhosis refers to—1. The early stage. 2. The fully developed stage. 3. Hemorrhage. In the *Early Stage,* the indications are to stop all Alcohol and cure the Gastric Catarrh. The diet must be attended to, and medicines adapted to unloading the engorged vessels of the Liver. For this, we must have firm control of the patient. In the early stage, give Iodide of Potassium, minute doses of Mercury, Mineral Salts, such as those of Silver, Mild Saline Laxatives, Sulphate of Soda, and Phosphate of Soda

in warm dilute solutions. The diet should be very light and to suit the capacity of the Liver, and the strength of the Stomach. Alternate courses of the Iodide of Potassium and the Salts of Silver may prolong life, mitigate suffering, and modify the Symptoms. In the *Second Stage*, our only hope is to check the development of the disease. Dropsy of the belly demands consideration. We may check it by promoting activity of the Skin by friction, moderate exercise, and the use of baths. We stimulate Secretion by Diaphoretics, Diuretics, Purgatives, and Hydragogues. Among watery Purgatives, we use Elaterium, Scammony, and Gamboge to draw off the liquid. We must see whether we are not damaging the Stomach. If so, draw off the water with a Canula. Diuretics here are not very efficient. Diaphoretics are better. Large doses of Jaborandi do much good sometimes. If it does not act, stop it. If the purgatives give a coated tongue, use the Canula. Of these, we may use the moderate size or almost any Capillary Canulæ, if the shock from the former would be too great, and allow the water to trickle out. There is no use in pressing out the last few drops. It soon forms again. Only remove enough to give comfort. If hemorrhage is great, order strict diet and promptly evacuate the liquid. As the hemorrhage comes from a cause we can't remove, the blood flows till the pressure is relieved. Jaundice is rare in Cirrhosis. It is difficult to understand why the Radicles are not pressed upon. It may, however, arise from an association of Catarrhal Hepatitis. This is more common in the Hypertrophic form of Cirrhosis.

Cancer of the Liver may arise as an infiltrated growth, or as separate and projected nodules or masses. It may be Primary, particularly in the male, or Secondary following Cancer of the Pancreas or Stomach or External Cancer. Women have Cancer of the Uterus and Ovaries more frequently. It is a disease of the later periods of life. 1. When *infiltrated*, the Liver is enlarged, and we have Cancerous Nodules embedded in the substance of the Liver. It looks like a slice of cold suet pudding. The nodules are under the Peritoneum. 2. There may be *projections* the size of the fist. We do not find the fine granulations of the Cirrhotic Liver.

The **Symptoms** are highly distinctive. We have—1. An **Enlargement** of the Liver, which is either uniform or nodulated. The latter is more frequent. In the latter the enlargement is progressive. 2. **Pain**, which is very severe and associated with—3. **Tenderness** over the diseased organ. 4. **Gastric Disorder**, which increases as the disease advances. This presents itself in repeated **Vomiting**. 5. **Jaundice** is almost constant. Whether the Cancer is below the surface or studded throughout the organ, it gives obstruction. If the main duct is obstructed the jaundice is intense. 6. The **Fœces** are putty colored. 7. The **Urine** high colored, and **Dropsy** may occur, but it is rare. 8. There is intense **Anæmia** and debility. 9. **Cachexia**, wasting and loss of flesh. Death occurs from Exhaustion and inanition.

The **Duration** may be from one to three years, or it may only last six months.

The **Diagnosis** is easy. It is easiest where there is Primary Cancer somewhere else. We observe—1. The enlargement of the Liver with irregularity of outline. 2. The nodulated feeling. 3. The age of the patient. 4. The Abscence of Ascites. 5. The Jaundice. 6. The absence of any history of intemperance. 7. The gradually progressive downward course of the patient. We might mistake Cancer for Hypertrophic Cirrhosis. This is attended with Jaundice, Tenderness and Failure of health, but it is a slow disease. It lasts many years—from one to six. Hemorrhoids, when present, indicate Portal obstruction. The disease is influenced by treatment.

history; we have in syphilis an absence of gastric derangements & here specific treatment influences the disease.
Prognosis:- is hopeless in the established stage, life may be prolonged but the disease can't be arrested.
Treatment: Preventive, Curative & Palliative.
Preventive - Cure all bad habits, alcoholism & relieve hepatic congestion &c.
Curative - Diet - no alcohol - Give salines & iodides. Salines for a mild laxative effect. Iodides in large doses if there was syphilis; if not in small doses. Mercurials in very small doses may do good if you give them. Avoid salines & iodides, In cases where there are Catarrhal lesions $AgNO_3$ is very good. When dropsy comes on then we have the full developed stage, draw the H_2O off early, make a few attempts to get rid of the fluid first by giving a pill containing Calomel gr 1/8 Squills gr 1/2 & Digitalis gr 1/2. to this you may add nux vomica.
Cancer of the Liver - we may have cystic or solid tumors of the liver when solid it is cancer unless it be syphilitic.
Cancer is more common in men than women & appears about middle age.
Symptoms (1) Painful irregular enlargement with jaundice without ascites. with progressive failure of flesh & strength
(2) Tenderness on pressure
(3) Rate of growth varies greatly
(4) Digestion may not suffer at first, but ere long the stomach becomes affected by congestion or cancerous formation in its walls
(5) Jaundice due to pressure on the bile ducts
(6) Peritonitis may develop
(7) Average duration 1 yr
(8) No fever
Prognosis - hopeless. Treatment palliative & to relieve pain.

Cancer is not. The enlargement is uniform. These are not prominent nodules. In *Amyloid Liver* the spleen is also enlarged.

The **Prognosis** of Cancer is hopeless.

The **Treatment** is purely palliative and directed to the relief of pain and the meeting of indications as they arise.

Syphilis of the Liver is not very common now. The thorough treatment of the early stages renders Tertiary manifestations much rarer than they used to be. Still, of the Visceral lesions of Syphilis those of the Brain and Liver are most common. Syphilis manifests itself by the development of Gummata, which go on to Fibroid changes and patches in the Liver, together with Perihepatitis, adhesions to the Diaphragm and neighboring Viscera, causing deformity of the Liver. The organ may be irregularly enlarged.

Symptoms. We have first a **History** of Syphilis. **Pain** in the Liver, which is paroxysmal, owing to spells of Perihepatitis. **Enlargement** of the organ. **Jaundice** may occur, but it is not common. **Ascites** is also rare. **Digestive disturbances** are marked.

The **Diagnosis** is very easy. In a Syphilitic person we would recognize it by the pain, tenderness and enlargement of the organ and the history of the patient.

The **Prognosis** is very grave. Where there are deep lesions they leave behind permanent changes. We can only check them for a time, as in Syphilitic lesions of the Nervous System.

The **Treatment** is anti-Syphilitic, pushed actively. Large doses of Iodide of Potassium will sometimes cure where mixtures of the Iodide and of Mercury fail. We may use Mercurial Inunctions and different varieties of Salts, as those of Iodine, Sodium and Potassium.

Amyloid Liver *is a condition in which the vessels and cells of the Liver undergo Amyloid change* (vide Amyloid Degeneration of the Kidney, Part I, page 65)

Morbid Anatomy. The Liver is uniformly enlarged and perfectly smooth, its edges being rounded and thickened. It is enormously heavy, sometimes weighing as much as ten or twelve pounds. Its Capsule is not much thickened. It is bloodless pale, glistening, and, on thin sections, transparent. Treated with Iodine, it gives a deep brown color. With it we usually find the Spleen Amyloid. This is called the Sago Spleen, because the Malpighian Corpuscles look like grains of Sago. It is also attended with Amyloid degeneration of the Mucous Membranes of other organs.

Causes. 1. Long-standing and troublesome **Scrofula.** Scrofulous diseases of bone. 2. **Ulcers.** Such alterations are by these brought about that Amyloid Degeneration results. 3. **Syphilis.** The Amyloid Liver is not the true Syphilitic Liver, however. This latter has Gummata and Perihepatitis, *i. e.*, long-continued **Suppuration.**

Symptoms. It is a **slow** and **painless** disease. The Liver is **uniformly enlarged**, and the **spleen** is also implicated. **Albumin** and **Hyaline casts** appear in the Urine. The enlargement of the Liver gives rise to a **feeling of weight** and dragging. **Ascites** is marked. There is no Jaundice.

Diagnosis is easy. Where we have the above symptoms, and a history of old Scrofula, Suppuration and long-standing constitutional Syphilis, we recognize it by the absence of local Syphilitic Inflammation and of Jaundice, the presence of Ascites and the implication of the other organs.

The **Prognosis** is very bad.

Treatment. No Specific Treatment is of any avail. We should give a Nutritious diet, Cod-liver Oil, Iodide of Iron and Arsenic, and treat constitutional disturbances as they manifest themselves.

Fatty Liver. Under this head we consider Fatty Accumulation and Fatty Degeneration. Wherever we have Enlargement we look for Hypertrophic Cirrhosis, Cancer, Syphilis, Amyloid Degeneration or Fatty Liver.

Fatty Accumulation of the Liver is always attended with an enlargement in the bulk of that organ. *It is simply a deposit of fat in the substance* of the Liver far beyond its physiological limits.

Morbid Anatomy. The Liver Cells need not suffer much in structure. The Liver is full of fat cells. The Nucleus and Granular matter still remain intact. The Liver is of a pale yellowish-red color. It is enlarged. The knife which cuts it becomes greasy, and is covered with a greasy, bloody liquid. Treated with Ether and Potash, the Quantitative Analysis shows the fat to be in excess.

Causes. Whatever leads to obesity, as, *e. g.*, High living, Rich food, Insufficient exercise. At the menopause we have a tendency to fatty accumulations. It is an attendant on Phthisis, owing to slow oxidation. In general, whatever tends to congestion and engorgement of the Liver.

Symptoms are the marked smooth enlargement of the organ without Pain, Jaundice or Ascites, and without marked symptoms of obstruction.

Diagnosis. The only thing to confound it with is Amyloid Degeneration, but the subjects are different. In *Amyloid* we have a pale and cachectic patient. In Fatty Liver we find a plethoric condition.

The **Prognosis** is good, unless the deposit of fat has reached a high degree.

Treatment is Dietetic and Regiminal, as in Hepatic Congestion. Our remedies should be directed to the promotion of secretion and the oxidation of the blood. No fatty food should be allowed. Mild Saline Laxatives should be given. Exercise to favor oxidation and adapted to the circulation should be enforced.

Fatty Degeneration *is a condition in which we have an actual breaking down of the cells of the Liver, and a replacement of the normal Tissue by an unhealthy fat.* It is not like Fatty Accumulation—a deposit of healthy fat in a healthy subject.

Causes. It occurs in Yellow Fever and Acute Yellow Atrophy, and in Phthisis. Depressing anxieties, Want of Sleep, Deficient food, Insufficient Sunlight predispose to fatty degeneration. The Liver is singled out from the co-existence of bad habits, as Alcoholism.

Morbid Anatomy. The Liver is reduced in size, is pale and soft, and is easily torn. On microscopical examination we have a large mass of fat globules, mostly confined in cells, and when the fat is removed the cells are found to be broken down. Other organs are apt to present similar changes, as the muscular walls of the heart and kidney.

The **Symptoms** of Fatty Degeneration are added to those of impaired nutrition. The patient is pale, often sallow; is weak and has defective digestion. The Liver is not much altered in size. There is no pain and no ascites. The elements of the Bile are not separated, and we have a tinge of Sallowness, leading to Jaundice from Suppression. True Fatty Degeneration is not common. It is much more rare than Fatty Accumulation. Some cases run a rapid course. Others are slow and tedious.

The **Prognosis** is grave. It is a fatal disease.

Treatment is unavailing. Usually the profound impairment of nutrition renders Treatment no good. We should try to improve the moral and

Diseases of the Pancreas

are somewhat rare & much can be done with them
they are very difficult to diagnose
the pancreas is very little accessible. its position is calculated
& so might with the intestines conceal the disorders of its
secretions were hard to diagnose

The Diseases are

I Lesions of the duct with obstruction formation
II Acinchosis
III Fatty Degenerations
IV Cancer

Isolated Concretions two kinds of pancreatic duct stones
unusual in many calculous affections of the digestive tract
there no definite symptoms

Calculous formation - cystic disease is rare more common the
duct - is longer & simpler in construction. they
calculi may remain imbedded as they may escape
causing further pain. one may have a pancreatic
disease due to subject of a cystic one

Symptoms 1 Intestinal indigestion & catarrh
2 Pain in region of pancreas
3 Debility more with the general health
4 Fatty stools
5 Irregular bowel
6 Tumor in median line tender to the touch

Diagnosis. a matter of presumption with mild forms
as the severe form the diagnosis must be
made from cancer of the stomach or of the
pancreas or from disease of the abdominal
aorta.
distinguished from cancer of stomach by absence
of vomiting of the history, however there may be
symptoms resulting from the pancreas
from cancer of the pancreas by progress
of the disease

Prognosis - favorable in mild forms

Treatment. diet hygiene rest &c

Cancer of the Pancreas - rare
sometimes primary & sometimes secondary
more common in male & after middle age

Symptoms: 1 Intermittent dyspepsia lasting many months
2 Progressive loss of flesh with cachexia
3 Pain deep seated & referred to back
4 Vomiting
5 Jaundice
6 Ascites & tenderness
7 Tumor deep seated & central

-the course is necessary rapid terminating in one year
Diagnosis is very difficult
Treatment Palliative

physical surroundings, and give Iron, Arsenic and Mineral Tonics to build up the system.

Hydatid Tumor of the Liver *is a cystic growth due to the deposit in that organ of an Embryonic Tape Worm.* These tumors may be found—1. In the substance of the Liver; or 2. Projecting from it. They vary in number and in size. We may find a single Cyst or numerous Secondary Cysts. The walls of the Cyst are thin. They contain a clear watery liquid with scarcely any albumin, and often there is a slight calcareous deposit in the interior.

Symptoms. We have a slowly increasing **enlargement of the upper part of the abdomen** attended with more or less **pain.** There is an absence of Fever, Jaundice, and Ascites. Physical examination reveals a **rounded Tumor** pushing the Viscera out of place. On *palpation*, we obtain **Fluctuation**, and on *Percussion*, **Flatness**, which is not affected by change of position. The mass developes from Right to Left, and from above downwards. To the left and below, we get resonance. By puncture, we obtain **liquid.**

Diagnosis has reference—1. To the *existence* of a tumor distinct from mere enlargement of the Liver. 2. As to the *Nature* of the Tumor. The Presence of Fluctuation is of great diagnostic importance. We distinguish Hydatid Tumor of the Liver from Cancer by the *absence* of—1. Pain. 2. Wasting Cachexia. 3. Jaundice; and 4. By the result of Puncture.

Prognosis is favorable, if the condition is recognized early, but there is always danger from suppuration occurring, or the sack bursting, and setting up Peritonitis.

Treatment consists in opening up the Cyst or Tumor with a Canula and Trochar. Should the Cyst return, we may inject it with Iodine, or we may fasten a Seton in the walls of the abdomen. No internal Treatment is of any use. The Disease is a very rare one in this country.

Acute Yellow Atrophy *is an acute affection of the Liver, attended with rapid fatty degeneration and disintegration of the Cells.* The organ is reduced in size. This change being accompanied by moderate Fever, Jaundice, Scanty and Albuminous Urine, Nervous Symptoms, and finally death.

Morbid Anatomy. We sometimes find the Liver reduced to one-half its natural size, but it may retain its normal bulk. It is extremely soft, and can be easily torn or broken. The color is a dirty yellowish brown. Its surface is greasy. *Microscopically*, we find that the cells have undergone actual Degeneration, and in many cases their form is lost. There is some little hyperplasia of the interstitial connective Tissue. The kidneys as well as the whole body are stained with bile, and present the appearance of Catarrhal Nephritis.

Causes. The real cause is unknown. It is most common in young pregnant women, but it is also seen in male adults and children. It would appear that nervous shock and extreme over-exertion are predisposing causes. The morbid process is partly a Hepatitis, but chiefly a rapid degeneration and disintegration of the cells.

The **Symptoms** at first are often obscure, and the disease cannot be recognized for some days. The patient complains of **Lassitude**, aching through the limbs, back and head; **nausea** and loss of appetite. There is some **fever. Jaundice** gradually comes on and deepens. The **urine** is stained with bile and lessened in quantity, and contains albumin. Thus far we have apparently a picture of Catarrhal Jaundice; but later in the disease the **Vomiting** gets worse, the **jaundice** is deeper. The **fever** runs up to 101° F.–102–5° F. The **urine** more scanty, with tube casts and crystals of

Tyrosin and Leucin. There is **Delirium,** wandering at first, then persistent and wild. The area of percussion-dullness decreases, and there is *no* Tenderness. Finally, we get **symptoms of Blood poisoning,** and the patient sinks into a Coma, and dies as in uræmia. The disease lasts from seven to twelve days, and always ends in death. The fœtus, if there be one, is always still-born.

Diagnosis. Unless we keep the existence of this disease before our minds, we will always confound it with Catarrhal Jaundice; but the presence of nervous symptoms and of albumin and bile in the urine, and the gradual decrease in the area of hepatic dullness, would set us right. Unless there be *Yellow Fever* in the vicinity, we are not likely to confound acute Yellow Atrophy with it. In the former the Jaundice is an earlier symptom and more intense. The early symptoms are more severe in Yellow Fever, and there is always a Preliminary Febrile stage, and Leucin and Tyrosin do not appear in the urine.

Prognosis is invariably unfavorable.

Treatment of yellow atrophy of the Liver is simply palliative. We treat the case as though it might be one of Catarrhal Jaundice, by counter irritation, strict and careful diet, and Rest. When the excitement becomes marked, we have recourse to the Bromides, but, if possible, stimulants as Carbonate of Ammonia should always be tried first.

VII. THE FEVERS.

Fever *is a State of the System manifested by an altered development or dispersion of bodily heat, so that usually the Temperature rises considerably; and which is connected with a deranged action of the Nervous System and Tissue change; with Blood-poisoning and Local lesions: and which is marked by disturbances of all the Functions of the body.* An essential question is the Dispersion and Production of heat. We know very little about it. The alteration in Temperature may be due to a decrease in dispersion rather than an increase in production. A certain amount of heat is produced normally by chemical changes going on in the body and a certain amount dispersed, the loss of Temperature being as much under the control of the Nervous System as is its production. We nearly always associate the idea of elevation of Temperature with that of Fever; yet, in Typhoid Fever, the Temperature has been known not to rise above 97° F. throughout the whole course of the case. Normal temperatures vary exceedingly. Some people always have a Temperature of 98.3° F. In children and nervous women, temperatures above the normal are not infrequent. After Typhoid Fever a temperature of 101°–102° F. may last for weeks, owing to the excessive amount of Caloric produced. Fever begins, as a rule, when the mercury stands above 99.2° F. Fever is *Slight* up to 101° F., *Moderate* from 101–102.5° F., *High* from 102.5°–104.5° F., *Excessive* from 104.5° F. —— (?). In any conception of Fever we must not neglect the Nervous System. There is a special Heat Centre. In Fever we have an increased molecular interchange. There is a perturbation of the healthy interchange between the blood and the cells. Some poisonous material, whose exact nature is a matter of theory, is admitted into the blood. These are micro-organisms, since a *period of incubation* is observed, during which the Spores multiply. They may be Animal, Vegetable or Non-vital, *i. e.*, merely chemical. In many Fevers there are Local lesions. Fever is attended by disorders. Sometimes nervous, sometimes the circulatory predominate. We must form a broad conception of it.

We divide Fevers into—1. Symptomatic. 2. Idiopathic.

The Fevers

Fever is often a symptom in disease
Essential Fevers – here the fever is the trouble
Symptomatic " " " " " due to some local trouble
Elevated temperature of the body – Sub-lingual temp. is 1/5 to 2/5° higher than axillary temp. – & rectal temp. is still higher, in little children it may be 99° to 100° –
Fever does not exist much below 100° –
100 to 100 1/2° = mild fever
101 1/2 to 103° = decided "
103 to 105° = high "
105° up = excessive " or hyperpyrexia
With fever there is disturbed nutrition, the blood is changed because of the products of disturbed nutrition
the nervous system is always involved in the production of fever. Every secretion in the body is changed in fever.
Cause of Fever – 1. a mild fever is generally symptomatic and may be caused thro nervous irritation (thro a reflex disturbance)
2 Entrance into system of a micro organism
Causes of Essential Fevers – here there is no local lesion & each has a special cause (an external cause must be introduced in each fever)
The specific causes are infectious & hence the fevers are the same
The material causing the fever is called the Contagium
They occur in one person but once, but this rule has many exceptions
They can reproduce themselves in other persons –
Continued Fever – always more or less present –
Periodic – Intermittent, Remittent, Interrupted (Malarial)
Hectic or Septic – short periods of fever
Incubation Stage – when the fever is hatching out –
Prodromes – forerunners of the true attack
Invasion stage
Stadium
Decline
Convalescence
Invasion is abrupt or gradual
Decline { abrupt – Crisis
{ gradual – Lysis

Ephemeral Fever - the mild state of fever lasting a day or two

Causes - Tissue changes influencing the same and the heat production

Symptoms
1 No stage of incubation or of invasion
2 rapid development of the fever 101 to 101 1/2° —
3 Nervous system disturbed, pains, restlessness, headache, disturbed sleep &c
4 Circulation disturbed, heart rapid but without much force
5 Face flushed, eyes bright, skin hot & dry
6 Breathing accelerated
7 Digestion impaired, tongue coated, mouth dry, appetite impaired, vomiting, bowels costive
8 Urine scanty & high colored
9 Terminates abruptly, usually by a slight discharge

Diagnosis - Exclude all local causes, examine lungs & heart, urine &c, also examine ~~throat~~ especially in children

Prognosis - Good

Treatment - Absolute rest in bed, with strict diet
milk is good, liquid diet
Pure water in small amounts
Aconite in minute doses
Bromides &c

Simple Continued Fever - has no local lesion & no specific character about it. It is acute lasting 12 to 14 days, terminates generally in recovery.

Causes -
1 Susceptible system
2 It is not contagious
3 occurs & recurs at any age but most common in the young
4 Prolonged exposure or over exertion

Symptoms
1. Moderately abrupt invasion
2 Malaise, general discomfort.
3 Generally rising fever but without irritation of any particular organ
4 Nervous symptoms, headache, soreness in nape of neck, pain in back & extremities
5 There may be irritation of the stomach or liver causing coated tongue, vomiting & bilious symptoms
6 Fever rises to 102 on first or second day & may get no higher or it may go to 103 1/2 or 104 at certain times
7 Fever does not break but fluctuates
8 Maximum in evening 6 to 8 o'clock
Minimum " morning 4 to 8 "
9 Fever lasts 12 or 14 days & ends gradually
10 There are rarely very marked symptoms, the nervous symptoms being developed during the stage of invasion

Symptomatic are connected with local inflammatory lesions, as Dysentery, Pneumonia, etc.

Idiopathic, or Essential Fevers, are those in which we cannot account for the cause. Local lesions may occur here too, *e. g.*, Ulceration of Peyer's Patches. In Scarlet Fever we have suppuration of the Skin.

I. **Ephemeral**, *i. e.*, Fever of a day's duration. In this process, which lasts 48 or 72 hours, we see a miniature of other fevers. It has no definite local cause, is of short duration, and is unaccompanied by any local lesion.

Causes are **Childhood** and **Delicate States** of the System. Many get Fever from the slightest **indiscretion in diet. Exposure to the Sun,** owing to stimulation of the heat-change process. Intense **mental excitement.** We must exclude slight catarrhal lesions. A little cold may have been taken, and the Fever may be Symptomatic, or it may be Rheumatic. Three-fourths of these Ephemeral Fevers are Symptomatic.

Symptoms are slight **Elevation of Temperature**, *i. e.*, from normal to 101° F. or moderate, *i. e.*, to 102° F. The **skin** is hot, but rarely parched. The **pulse** is accelerated and quick. The term quickness, as applied to the Pulse, indicates the quality, *i. e.*, the abruptness of the individual stroke. The **mouth** is dry, the **tongue** coated, the **appetite** impaired. **Respiration** is slightly quickened. The **bowels** are costive. The **stomach** feels a weight after taking food. **Thirst** is usual. The **urine** is scanty, high colored, acid, and of a high specific gravity. This is what is known as *Fever Urine*. There are also **Nervous Symptoms,** as Lassitude and Laziness. The head is heavy, and there is a dull headache. The patient stretches himself, and cannot get rested. There is a feeling of weariness. These symptoms are inseparable from Fevers. We see that every system in the body is disturbed. This condition lasts from 12 to 72 hours, and then we have the **Crisis.** This comes with Sweating, Nose-bleed, Purging or Diuresis. The other termination is by **Lysis**, *i. e.*, a gradual falling off. This, however, is not common in Ephemeral Fever.

The **Diagnosis** is only interesting in so far as the case calls for careful study to exclude Local lesions. Examine the Lungs, lest it should be Pneumonia, and the Larynx, for fear of its being Diphtheria.

The **Prognosis** is always good.

II. **Simple Continued Fever** is idiopathic, without local lesion, lasting nine to fourteen days. We recognize in it a perverted and increased tissue change and a perverted Nervous System. There is often catarrhal perturbation as well. There is no specific poison in the blood, but the Fever arises from a perversion of natural cell action and of the chemistry of the body. Owing to prolonged exposure to high temperature, fatigue and depressing influences, there comes about an excessive and irritated state of the Nervous System. We only have a disturbance of the normal function of the body. The system is in a state of preparation. There is a period of Incubation, when there are no symptoms, but in which the Tissues are undergoing this change. The attack is not so mild as in Ephemeral fever.

Symptoms. There may be a slight **Rigor**; then a moderate amount of **Fever.** The course of the Fever is a fluctuating one. The temperature is from 101° F. to 101.5° F., and may go up to 103° F. There are no characteristic eruptions in this fever, but there may be **accidental eruptions,** as Hives. Slightly raised blueish or reddish patches may occasionally appear, but these are not constant. The **Nervous Symptoms** are generally mild, but in nervous patients there may be Headache, Restlessness, and even Delirium. More frequently there is only apathy and dull headache, and an indisposition to move. There are **pains** in the limbs and

often backaches. The Digestive System is impaired. The **tongue** is coated, the **bowels** costive, unless there is enough catarrh to cause catarrhal diarrhœa. The mucous membrane of the stomach is so irritated that an indiscretion in diet or the incautious use of drugs may cause diarrhœa. The **Heart** is moderately excited, in proportion to the fever. The **urine** is febrile.

The fever pursues its course through a stadium of nine to ten days, and may terminate either by Lysis or by Crisis. There are very few complications, and no special symptoms.

Diagnosis. We must exclude local lesions, and investigate each system of the body capable of producing an elevation of Temperature. Then, if we find none, we say, This is fever. As to its kind, we look for the specific symptoms of other Fevers, as Typhoid, Typhus, and Scarlet, and finally reach our Diagnosis by exclusion.

The **Prognosis** is good. Only when it continues excessively is there danger, as in the Tropics or in cases of old and frail subjects. It leaves no Sequelæ, and is followed by rapid convalescence.

Treatment. Confine the patient to bed and give a restricted diet. The drying up of all the secretions shows that strong food cannot be taken with safety. After a few days we can tell how much the gastric system is disturbed, and we can regulate the diet accordingly, but in the beginning we are in ignorance, and, therefore, only the very lightest food should be given. In all fevers water is necessary, and patients should be encouraged to take it. Even when they are not thirsty, force water upon them. It is of value as sustaining all the vital processes. Give light broths, gruel, oat meal, or barley strained of its husk. Even pure milk is too heavy for most cases of fever in the early stage. Stimulants are never needed and are injurious. The mucous membrane, if not catarrhal, is, at least, very irritable. To relieve the fever it is only necessary to sponge the patient, especially when the fever is high towards the evening. With this we may add mild febrifuges. Give fractional doses of Aconite, of one drop each, every hour for eight or ten hours. This reduces the beats of the heart, and the fever. Alternate this with gtt. xxx doses of Spirits of Nitrous Ether, or we may mix it with a Dessert or Tablespoonful of Acetate of Ammonium. Frequently there are Malarial Complications. If so, give Quinia in full doses for a few days followed by moderate doses. If we are perfectly sure there are no malarial complications, we do not give Quinine. The system is not weak enough to require it as a tonic, nor the Fever high enough to need it as a febrifuge. It should be reserved until the end, when it will come in well as a Tonic. All remedies which irritate the mucous membranes, should be carefully avoided. Give no laxatives save the very mildest. The fever is made worse by any drug which irritates the mucous membrane. Watch the effects of each drug critically. If constipation occurs, give a cool enema. It reduces the Temperature. If the upper bowel is full, as shown by loss of appetite, and foul breath, we may order Calomel gr. ⅛ with Bi-Carbonate of Soda gr. iii or iv, of these we may give sixteen doses until a movement is obtained.

III. **Typhus** is a name given from the Greek word for stupor. It implies a tendency to nervous symptoms of a dull or comatose type. Other names are "Ship" and "Jail" Fever. It arises from filth, over-crowding and neglect. It is contagious and epidemic, without local lesion. It is specific and characterized by a peculiar eruption, high Temperature and marked Nervous Symptoms, running a course of fourteen days, and terminating in crisis. It has a high rate of mortality. When it is not fatal convalescence is rapid.

11. The gastro intestinal symptoms are moderate & more marked in the beginning, they being: impaired appetite, some ~~thirst~~ sluggish bowels
12 - Urine febrile scanty high color & high sp gr
13 - No cough -
14 - Pulse & Resp not much above normal
15 - No eruption - sometimes an accidental eruption occurs
16 - Few or no complications -

Diagnosis: by repeated examinations & by the symptoms, from typhoid by the eruption on the 7th day - until then treat expectantly

Treatment: Until the 8th or 9th day as a case of possible typhoid fever
absolute rest & liquid diet

Typhus Fever - known as ship fever, jail fever & famine fever
Is an acute specific infectious epidemic without lesions except of the blood, running its course in 14 days attended by an eruption on the 3rd day, with a high rate of mortality
Poison is thrown off from the system by the breath & through the skin. hence is taken thro' the air &c. hence poison is inhaled into the Resp system. Don't know its micro organism
Poison may be carried great distances in rags &c
occurs only once in one person
All ages & both sexes get it alike. It is taken more in cold weather when there is little ventilation
It is a filth poison
There is no morbid anatomy except the dissolving of the coloring matter of the blood which stains the tissues red
The spleen is moderately enlarged, dark & soft -
Period of Incubation varies from a few hrs up to one week. general period is about 6 days -
Invasion is abrupt - chill, rapid rise in temp & immediate development of excessive weakness
Temperature rises high at once 104 to 105° on the first day, remains continuous during

station & then drops very rapidly)

Symptoms

Nervous

Stupor in all cases which may be interrupted by delirium.

At first there is much pain, feels sore on touch, headache, backache, pain in legs, but these pains are soon blunted by the stupor

Appearance of Patient

Face - uniformly flushed, dull, dusky, conjunctiva injected, pupils contracted

Skin has a peculiar feeling, hot, stinging & biting to the hand

Eruption - Appears over entire body on 3rd day color mulberry red, in bad cases it is livid.

Spots round & smaller than typhoid spots - scarcely elevated, the centre of the spot is prominent at the end of 2nd day and so on until the entire spot remains under pressure

Spots undergo no desquamation & they all come out at the same time

There are no specific symptoms as epistaxis abdominal symptoms &c. as in typhoid fever because it is a blood disease

Pulse - very rapid & small

Heart becomes very weak & breathing very rapid

Urine may have albumin

The disease continues 14 days & then there is a critical change & convalescence is rapid with few sequela

Complications (1) Tendency to Parotitis or an infectious Mumps which suppurates

(2) Heart failure from degeneration of muscles of the heart from the high fever

(3) Sequela are very few

Diagnosis - easy - from the existence of the disease in the community

The symptoms by which it is known are high fever, absence of local symptoms

Cause. It is an acute, specific fever. We believe there exists an organized poison, probably some low form of vegetable or animal life. It is a poison which can arise *de novo*. It can be bred at will. Foul air, filth, etc., generate it. It breaks out wherever ill-fed persons are packed together. It is rare in America and is always imported. It is contagious in a high degree. This contagion operates through the air—about eight feet, not more. It may be conveyed by a handkerchief, bed clothing, etc. It spreads rapidly through a community.

The **Stages** are—

1. Incubation.
2. Invasion.
3. Stadium of the Fever or Stage of Eruption.
4. Decline and Convalescence.

The stage of **Incubation** lasts about two weeks. There is no fever and no symptoms.

The **Invasion** is abrupt. It commences with a creep or a chill, rigors through the body and hot flushes. In a few hours the temperature rises to 103° F., then mounts to 104° F., and possibly 105° F. by the end of the third or fourth day.

Throughout the **Stadium** there is a slight rise and fall through the twenty-four hours, but the fever runs a direct course.

The Period of **Decline** is from the ninth to the tenth day. The fever breaks rapidly and terminates by Crisis.

We find marked **Nervous Symptoms.** There is a feeling of confusion. The patient may even reel and stagger, and take to his bed. Debility is extreme, accompanied by headache and backache, soreness of the limbs and surface. Typhus bears a resemblance to Cerebral Meningitis. Delirium is usual and often active. The patient may talk wildly, increased tendency to dullness meanwhile alternating with this. The patient grows more and more dull. Slight dullness we speak of as Hebetude. Then comes marked dullness, and in the latter days Stupor. Sometimes the patient lies with glassy eyes, unconscious of what is going on around him. This state is known as Coma-vigil.

Muscular Symptoms. The tongue is tremulous. The muscles twitch. The tendons of the wrist exhibit spasms. This is **Subsultus Tendinum.** Sometimes the patient grasps at motes in the air, or plucks at his bed-clothes. This is **Carphologia.** These are characteristic and sometimes dangerous symptoms. The **Face** is uniformly congested. It has a heavy, dusky look, which is very characteristic. The **Skin** is burning hot, dry and pungent. "Calor Mordax," or biting heat, is more common than in any other disease; except Scarlet Fever. It is the *quality* of the heat which is so marked. About the third day comes an **Eruption** all over the surface. These are elevated, mulberry-red patches, which at first disappear on pressure. They are rounded. Their color is proportionate to the degree of the case. In a couple of days they are not so prominent, and *they do not then disappear on pressure*. By the fifth or sixth day they become Petechiæ. This eruption comes in a single crop and spreads rapidly. It fades as the disease declines. **Respiration** is hurried, and there is a disposition when the strength fails to Hypostatic Congestion of the Lungs. **Circulation.** The pulse is quick and grows weak. The Heart loses its muscular First Sound. With the high fever and pronounced nervous symptoms we can only hear the First Sound as a little valve-like click. **Digestive Symptoms** are few. The *appetite* is lost. There is *thirst* at first, but this may disappear from Stupor. The *tongue* is coated and dry. There are brownish crusts and Sordes form on the teeth. The *belly* is flat.

The *bowels* are costive. The *urine* scanty, highly colored, of a high Specific Gravity, and often contains Albumen and Hæmoglobin from the disintegrated blood corpuscles. Were it not for the eruptions we should think it was a very bad case of Ephemeral Fever.

The fever terminates by **Crisis.** This is accompanied by Sweating, Diarrhœa and Diuresis.

Convalescence is generally rapid. There are few Complications and Sequelæ. Among the most interesting are:

1. **Secondary Parotiditis,** coming on towards the close, sometimes leading to suppuration, but not adding greatly to the mortality.

II. **Nephritis,** as shown by Congestion, cloudy epithelium, tube casts, and albumin, is very common. This occurs in many fevers. If the amount of the albumin is small, and the tube casts few, it is not a very grave complication.

III. **Pulmonary Complications,** such as Hypostatic Congestion and Hypostatic Pneumonia are frequent.

IV. **Nervous Symptoms** may make us fear acute brain trouble. This is rare. However excited the patient may become, or however deep the Coma, these are referable to the poisoned state of the blood and the exhaustion of the Nerve Centres.

The **Diagnosis** will be better considered after Measles, Typhoid, etc., *q. v.*

The **Prognosis** is always anxious. The violence in different cases varies. In some cases the mortality is 60 per cent.; in others, only 10 per cent. The disease is fatal in the old and weak. The virulence of the poison is shown by a great amount of Petechiæ and High Fever; yet we should never abandon hope. Typhus is a self-limited disease. When the virulence of the poison has spent itself, Nature works for the patient as strongly as the disease worked against him.

Treatment. Get the patient to bed immediately. The strictest discipline must be practiced. Rest must be enforced and the system sustained by food. The tendency is to exhaustion. Food must be liquid, in small quantities and at regular intervals. It should be given through the night as well as the day. An additional amount of food is needed between 12 P. M. and 7 A. M. Each hour is a distinct step in the battle. A record should be kept of each thing taken and the time. The diet should consist of milk and beef broth. Mutton and Chicken broth are neutral. Beef tea is a laxative. Water must be freely given. The administration of stimulants is nearly always desirable, but should not be given until the symptoms call for them. They are indicated when the case assumes an increased Typhoid type, as shown by low muttering delirium, Carphologia, Subsultus Tendinum, increasing quickness of the pulse, slipping down in bed, a dry coated tongue, and when there is indifference to taking food and drink. If the stimulant does good the tongue will become moister and the pulse stronger. If there is no improvement, or excitement ensues, some other stimulant than alcohol must be tried. *Fever* symptoms should be treated by cold sponging. If the fever continues use the wet cold pack. While we do this externally we give full doses of Quinia, Salicylic Acid and Antipyrene (do not give Veratrum Viride or Aconite). Give Quinia gr. xxx in doses of gr. x three times a day, so as to impress the Nervous System powerfully. With this use cool Enemas. Febrifuges, such as mineral acids, act first. Their action is frigid and tonic. Give Muriatic Acid and Nitro-Muriatic Acid. These are the most useful. Also Sulphuric Acid. If there is a tendency to hemorrhage give Turpentine. Quinine, Mineral Acids and Turpentine may be given together, but beware of multiplying drugs. Allow the patient as much time between treatments

injected pupils, pain in back &c.
It may be taken for measles which has an eruption like typhus which comes out on the 3rd day but in measles there is coryza & bronchial cough & the eruption of measles runs together & forms patches
It may resemble Cerebro Spinal or Spotted fever

Prognosis - Grave - mortality 25 to 40% - it starts of with its greatest mortality
The prognosis improves as the days go by.

Treatment - Is simple - Nourishment is the chief thing as the digestive system is intact
Give milk & concentrated broths in considerable quantities with plenty of fluids
Stimulants are always needed & should be begun early
Rest should be insisted upon
Mineral Acids, tonics & antiseptics
Chlorine H2O as a drink & to dilute the acids
Turpentine for profound typhoid state
Treat pyrexia with antipyrin, antifebrin & quinine with the external use of cold water
Give drugs for the nervous system as Ammon carb., bromides, chloral Camphor Musk & opium

Typhoid Fever an acute infectious febrile disease due to an organism with lesions of the spleen & lower part of the bowels, with an eruption

Mortality 5 to 35 % -

Micro organisms - are wide spread (all over the world)
conditions for their development are filth &c
they enter the system thro' the alimentary canal. the disease is not contagious thro' the air but only thro' the discharges thro' the alimentary canal.
The system must be susceptible to the poison
Some persons can't contract the fever
The state of the intestinal canal & of the intestinal contents has much to do with the severity & the course of the disease
The organisms live in the air water &c
Susceptibility is greatest in early life but may occur at any age
It occurs only once in the same subject -
It is a sporadic disease &c but it may be epidemic

Anatomical Lesions - The abdomen is distended, lumen the intestines are extensively diseased
all the glands are diseased first enlarged then ulcerated
The surrounding mucous membrane is affected with catarrh
The muscular coat is affected & loses its contractile power
The contents of the bowel are offensive liquid yellow in color and liquid & are easily decomposed thus giving rise to gas, hence [illegible] tympany of the abdomen
All the glands may be enlarged or only a few
This enlargement of glands lasts a few days & then they burst - giving rise to ulcers & the glands slough off -
The lymphatics of the intestines are also enlarged
They may become soft & then undergo resolution very rarely suppuration
The spleen is enlarged - tissue soft - pulp dark
There is alteration in the blood
Lesions may be found in the muscles, they becoming waxy & granular especially those of the intestinal walls
The lungs may present lesions

as possible. Often the *Nervous System* requires treatment. Here Chloral is to be feared. Bromide of Potassium or Ammonium with Carbonate of Ammonia is better than Bromides alone. Alcohol and Chloroform (10 per cent. solution) is a sedative in excited delirium, and is acceptable to the stomach. Sometimes Camphor, Musk and Asafœtida are good, but should be used with reluctance.

IV. **Typhoid Fever.** This has been called Enteric. The Germans call it "Typhus Abdominalis." Typhoid is a bad name. We must distinguish between the Typhoid form of any disease and true Typhoid. It is only *like* Typhus in being a Fever and in having certain dull symptoms. Typhoid Fever *is an acute, specific, febrile disease, not contagious, but infectious, both endemic and epidemic, characterized by a long course of from three to six weeks, by a peculiar temperature curve, by a peculiar eruption on the seventh day, by marked abdominal and nervous symptoms, showing lesions of the Blood, Spleen, Peyer's and Messenteric glands, with numerous complications and sequels, and comparatively low rate of mortality.*

We do not know the nature of the poison. It can originate anywhere and at any time. It is connected with the decomposition of organic filth, not necessarily fœces. It gains entrance into the system by milk and water. The disease is not contagious. Nurses never get it. All doctors get Typhus, but not Typhoid. It is infectious. The poison infects materials and requires some time to develop its virulence.

Lesions. I. The **Blood.** There is a poison in the circulation, but the blood is not so much dissolved and broken down as in Typhus. There is some decrease in the red and an increase in the number of the white corpuscles, and an increase in the coagulability of the blood.

II. The **Spleen** swells to twice its natural size. The Malpighian bodies are enlarged.

III. **Peyer's Glands** are aggregations of closed follicles. They are almost invisible normally. They become enlarged, and present the "shaven-beard" appearance. This is the first stage. Then there is a more marked enlargement. The patches are more prominent. They run together, and form swollen patches of lymphoid tissue. Then comes Ulceration. The Mucous Membrane breaks away over the opening, or there may be a burying Ulcer. It may eat through the muscular coat and get down to the subserous. We may have a small-pox appearance from enlargement of the simple glands. The Messenteric glands are enlarged as the result of spreading inflammation through the Lymphatics.

IV. The **Striated Muscles.** The long fever causes Degeneration and Granular change, in the muscles of the Heart and Abdomen especially.

Symptoms. *Incubation* varies from ten days to three weeks, during which time there are no symptoms. Then we have the *Invasion*, with premonitory symptoms. These consist of Debility. The patient is tired and good for nothing. There is frequently severe **headache** in the posterior part of the head. The **appetite** is poor, and the **tongue** a little coated, and there may be slight abdominal pain. These symptoms last for a longer time in Typhoid than in any other—they last many days. We cannot date the exact beginning of the attack. The patient passes very gradually into the **Invasion** period, which precedes the appearance of the eruption. The patient may be complaining two weeks before the eruption comes out. We estimate the beginning of the fever by the beginning of slight temperature rise in the afternoon. The **fever-chart** is marked by *rising curves, with falls in the morning.* At the close of the first week the temperature may reach 104° F. For the next two weeks it may be between 103° F. and 104° F.

with a pretty distinct drop at some particular period of the day. The next two weeks show a gradual decline, and it terminates about the twenty-eighth day by Lysis.

Course of the Fever. Note its gradual rise. There is no chill. It does not rise abruptly as in Typhus. It presents a marked break, *e. g.*, from 104° F. or 105° F. down to 102° F., at some period of the day. This remission and exacerbation is very characteristic. It need not be at any particular time. Usually it is lowest before noon and highest in the afternoon. But this rise may be reversed, and the rise occur in the forenoon. Many cases have no high temperature. Many never go above 103°. Note, too, the decline and termination by lysis. 1. Typhoid may abort and lysis begin, and the fever be over by the eighteenth day. This aborting is more common in children. 2. On the other hand, the fever may last 30 or 40 days, and there be a failure of the local lesions to heal. 3. The fever may relapse after the stadium is gone through, the patient have a rise in temperature, and go on 120 days, having had four relapses. Such relapses are very rare. A second relapse is common; a third relapse very rare. The second stadia are generally shorter than the first. From the time the fever begins we must study the other symptoms.

The **Pulse** keeps pace with the fever, but is not very rapid—96 to 110 in an adult, and from 110 to 130 in a child. If it is above this, it shows unusual severity. The pulse is not very small, but is weak. It may be somewhat Dicrotic, owing to a relaxed condition of the arterial system at the end of the second week. Sometimes the pulse is very slow, particularly where there is a malarial complication. **Respirations** are quicker than we should expect from the pulse. Bronchial irritation and Pulmonary congestion are very common. We often have **cough**, which is very harrassing. We may find sibilant Rales at the back of the chest, or Hypostatic Congestion over the whole lung. These two may be constant attendants throughout the whole course of the disease. The **Skin** has not that dry Burning—the "Calor Mordax"—which marks Typhus. It is moist, soft, and relaxed sometimes during the twenty-four hours. The **Expression** is sleepy and drowsy. There is a circumscribed flush on one or both cheeks; not the dusky color of Typhus. The Conjunctiva is clear, as a rule, and the pupil normal.

Nervous Symptoms. The patient addresses imaginary persons around him. This may amount to a constant babbling. However, the type is generally mild, wandering Delirium. Violent Delirium is exceedingly rare. The patient wants to leave his bed, and will walk out of a window and break his neck, though he may appear conscious. Patients often fancy some one calling them. In very bad cases they may be violent. In some cases we have Hysteroid symptoms. Stupor may come on. The patient opens his eyes slowly when called, or may go into Coma and remain so some days before the end of the disease. Subsultus and Muscular Tremor are common. Sometimes there is Hyperæsthesia. The **Headache** may be very severe, but generally passes away when the delirium appears. It may, however, subsist. This is also the case with the pain in the back and limbs. **Dullness of Hearing** is frequent. It comes earlier in this than in any other fever. It has some diagnostic value. **Digestive Symptoms** are very pronounced. We have a remarkable loss of appetite and an absolute indifference to solid food, and even to drink. The **Tongue** is heavily coated and yellow. If the case is not a very severe one it may stay yellow to the end, but it may become brown and the edges red. The tongue itself is hard, and we may have Sordes. This resembles the Typhus fever tongue.

Symptoms - the disease lasts about 6 weeks often 8 weeks

Prodromes or Incubation Period

Listlessness want of appetite headache. restlessness at night. eruption comes out on 7th day

Early Symptoms - Fever. weakness, severe headache and aching in the limbs. thirst, pain in belly & bowels very constipated. Fever during the 1st week goes gradually higher & higher until it reaches about - 103° to 104°

the disease is often called Slow nervous fever

the stadium occupies about - 14 days during which the temper varies about 1° more or less

the maximum temp- varies much in different cases it may go up to 105°. it generally reaches its maximum about the 10th day but the varies

varieties
- abortive early rise
- hyperpyrexia during stadium
- morning maximum & evening minimum
- excessive fluctuations (coexistence of malaria)

the temp- at the close comes down gradually & may come down to subnormal & is very sensitive the most trifling cause putting it up again

Relapses are very common

Nervous Symptoms

1. headache and pain in nape of neck, back & extremities
2. Deafness (is very common)
3. Mild Wandering & delirium
4. Trembling & twitchings of the voluntary muscles
5. Dreams sometimes amounting to stupor

Epistaxis - very common - from catarrh in the nose

Delirium - tendency of patient to leave bed the delirium may be hysterical

Stupor - in mild cases lies quiet for hours with eyes closed, in severe cases there may be downright stupor

Digestive Symptoms

1. want of appetite & much thirst in many cases pure water in abundance if thirst exists not
2. Belly distended & tympanitic
3. Looseness of the bowels. In other fevers bowels are costive

Two very large stools do harm & should be checked
4 Abdominal pain
5 Hemorrhage from the intestine is a complication but is common & is serious, especially if the blood is black which shows that it comes from higher up.

<u>Respiratory & Circulatory Symptoms</u>

1 Pulmonary congestion is a common symptom giving rise to a cough
2 Breathing is hurried face cyanosed
3 Pulse - ordinarily not so rapid - below the ratio of 1 to 4 with respirations.
A very rapid pulse is of especial danger - the pulse is always soft & weak showing relaxation
the heart is weak

<u>Urine</u> - [illegible] may have small amt of albumen may lead to acute catarrhal nephritis

<u>Eruption</u> - about 7th day. Some cases have no eruption. The eruption depends upon irritation of the peripheral nerves & is most common around the abdominal zone but is not limited to this part, it is in the form of small oval erythematous spots of a rose red color, not hard, not elevated, disappearing on pressure, each spot lasting a few days & then disappearing leaving no stain followed by a second third &c crop
There is no relation between the no. of spots & the severity of the disease
There are many accidental eruptions during this disease

<u>Complications</u> 1 The special symptoms may run to excess
2 Stupor (deep) & convulsions
3 Capillary Bronchitis or Catarrhal Pneumonia
4 Degeneration of the heart muscle causing heart disease or heart failure.
5 Hyperpyrexia above 104 1/2°
6 Diarrhea & hemorrhage
7 Perforation of intestine (3rd or 4th week) produced by indiscretions in eating. Symptoms are pain, rise of temp, inflation of abdomen, collapse - Treated by Laparotomy

Usually **Vomiting** is not common, but it may be present if there is much Gastric Irritation. The **Belly** from the very first is a little full. This is termed Meteoric Belly. Then comes Tympanitic distension of the Belly. This may constitute a serious symptom and interfere with Diaphragmatic movements. There is a large accumulation of gas, because the contents of the bowels are fœtid and the muscular coats are weakened. There is great centrifugal force, and the muscles being weakened, the distension is often enormous.

The **Bowels** are loose and irritated as a rule. The stools are thin, semi-liquid, ochre-colored and very fœtid. The amount of the Diarrhœa varies very much. Sometimes the bowels themselves are quiet, but $\frac{1}{8}$ or $\frac{1}{10}$ gr. Calomel or a dose of Castor Oil will start them off. In some seasons we have **Constipation.** In these cases probably the ulceration of the glands is slight. Still, in one case there was constipation requiring injections, yet proved to be an ulcer which perforated and caused death. Generally we have two or three stools a day. This condition is peculiar to Typhoid. In all other fevers the bowels are constipated. **Hemorrhage** may sometimes occur. The Belly is the seat of lancinating pains over the line of the Colon, and is tender to the touch. These pains are not often severe, but fixed and constant. There may be a gurgling from a mixture of gas and fœces. Poking the patient to obtain gurgling should not be practiced. **Splenic Dullness** is very common. The spleen is often felt below the ribs. **Urinary Symptoms** are generally negative. The urine is Febrile in type. Usually there is a little albumen. **Catarrhal Nephritis** may be a a complication, and then we have more albumen, with the addition of tube casts.

Epistaxis. In no disease is this so frequent as in Typhoid. At first it seems to arise from the patient irritating the mucous membrane with his finger nails. It is connected with lesions of the mucous membrane; dry crusts form, and when these are torn off bleeding occurs. Some patients, however, go through without it. The **Eruption** comes on the seventh day. It then comes in successive crops, each one lasting four or five days. There may be four crops in a case. They are found mostly over the base of the chest and upper part of the belly. They are oval or irregularly rounded, usually elliptical. They disappear on pressure and then return. They are scarcely at all elevated. They are rose-colored. They come on from the seventh day to the stage of declination. In order to distinguish them from bedbug bites, it may be necessary to use the microscope. There is another eruption called *Sudamina.* It is an abrasion of the cuticle by sweat. It is found in the groins and over the Sternum principally. It comes on usually as the period of decline begins, is generally favorable, and can be distinguished by passing the hand over it.

Irregularities and Complications. Typhoid fever may abort at any time from the second week on. There is also a tendency to relapse. Typhoid fever may be grave, or even malignant. The Blood poisoning may be as severe as in Typhus or Small-pox. The fever rises rapidly. Nervous symptoms come on at once, and there is stupor from the first. There may be fœtid diarrhœa from the first. The patient may die before the seventh day, and therefore have no eruption. **Malaria** may run into Typhoid fever, as, *e. g.*, in Bilious fever of the Tropics, or we may have a true Typhoid fever with Malarial complications. It is found where the two causes co-exist, *i. e.*, where persons in a Malarial District are exposed to Typhoid. 1. It is, as a rule, not a very fatal type. 2. The fever is marked by greater Remissions. 3. The amount of enlargement of the Spleen is very great, while the Intestinal lesions are not so marked. 4. Quinine exerts a

more marked influence in this type than it does in ordinary Typhoid Fever. It cannot, however, stop it, but it removes the Malarial element in a few days. We also have a **Bilious Form.** This is simply marked by a prominence of Gastro-Intestinal symptoms.

The **Complications** of Typhoid are exaggerations of its usual lesions. I. **Pulmonary.** We may have a severe Bronchitis and Pneumonia which is catarrhal in type. In Typhoid Bronchitis may run to excess and become diffused, or run into the smaller branches and become Capillary. Pneumonia is much more severe. It may arise at a later period, or occur in the beginning. Often we have Hypostatic Congestion associated with exhaustion of nervous force rather than with the Inflammation. If it comes on later in the fever it renders the Prognosis Graver.

II. The **Heart** presents a condition of marked failure. This is from mal-nutrition, sustained high temperature, and the drain on the system. These come on in the third week. The Pulse becomes small and weak. The first sound is obliterated and the Cardiac impulse is wholly lost. There may be also degeneration of Nerve fibres. Inflammatory Complications of the heart are rare.

III. We may have severe and obstinate **Diarrhœa,** *i. e.*, more than three loose stools a day. This may come from a marked degree of Catarrhal Degeneration or from extensive Ulceration of the Intestinal Tract. This is a source of weakness, and often death. . It requires treatment. We must not regard Diarrhœa as simply and purely an effort of nature to throw off the Poison. It is hopeless to expect to remove all the poison by Diarrhœa. Diarrhœa after the first few days is to be promptly, cautiously and persistently combatted.

IV. **Hemorrhage.** There is some discharge always. Some discharges are trifling, *i. e.*, where the blood comes from the larger bowel, is fresh-looking and small in amount. There may be internal Hemorrhoids, or breaking down of one follicle in the Small Intestine. If dependent on slough, which leaves a vessel of considerable size, it is very dangerous. It is followed by instant collapse, fall of temperature, paleness, sinking of force and failure of the Pulse. The Belly becomes distended. We have a gurgling. Blood decomposes and gives rise to more gas. Blood is mixed with the stools, which are horribly fœtid, with shreds of slough in them. One such hemorrhage may not do much harm and the patient may rally, but there is a tendency to recur, and the patient finally dies of exhaustion.

V. **Perforation** is marked by the sudden occurrence of severe pain. It is generally on the right side. There is a rapid running pulse, high Temperature, Cold Extremities, General prostration, pinching of the features, and death in twelve, twenty-four or thirty-six hours after the accident, from Peritonitis. There is not so much soreness and acute pain in this kind of Peritonitis, developed from perforation of the Intestine, as in acute Peritonitis.

VI. **Peritonitis** may arise from an extension of inflammation, without actual perforation, as when an ulcer is deep in the coats of the Intestine. There have been cases with symptoms of Peritonitis which have recovered. This may take place in cases of any degree of gravity. A great many cases of walking Typhoid—where the patient is not in bed, and that, too, in the third week, or even at the end of the third week—end in the perforation of an ulcer which has arisen from some indiscretion in diet. Perforation may occur where there has been no diarrhœa, but even constipation.

VII. **Excessive Tympanitis** is a complication. It may press on the Diaphragm and cause most serious heart and respiratory symptoms. It

8 Excessive tympanitis distention of belly
9 Nephritis
10 Epistaxis

Sequels 1 Protracted Insomnia
2 Intestinal Dyspepsia
3 Voracious Appetite
4 Nervousness - Mind weakness &c
5 Periostitis often going on to suppuration

Prognosis - Anxious & uncertain - Mortality 5 to 20% -

Diagnosis - always give patient benefit of doubt & treat as a case of typhoid fever.

Treatment - Indications hygienic, cleanliness ventilation disinfection of stools. never allow them to get into sewers cesspools etc
Put patient to bed at once & keep there until 30th day. & keep as quiet as possible
Patient must not leave bed to pass urine &c
Restricted & liquid diet kept up until convalescence.
Give a reasonable amount of H₂O
Milk diet is very good. the amt which will sustain a typhoid patient is about 3 pints per day.
Give about 2 quarts some rest as Day.
Give it at stated intervals say every 2 or 2½ hrs
5 oz at each time &c
Peptonize the milk
Sometimes the milk should be boiled with arrow root especially good in diarrhoea & when curds are found in the stools.
When there is much diarrhoea milk is very good but when there is none the patient must have broth altho' it is not so strengthening as milk
The cause of death is from exhaustion & diarrhoea & from heart failure hence pay close attention to the fever & if it dont go above 102° let it alone but if it goes higher then give antipyretics & begin with the milder forms as quinine in 5 gr doses it will also act as a tonic if it agrees with the stomach.

Small doses of aconite may be used but it generally does harm & should not be given if the temperature goes above 104°, here give 30 grs Quinine or cold pack &c

Antipyrine & Antifebrine should be used with caution as they often cause collapse

there is always danger of heart failure meet it with alcohol

Some alcohol is good in all cases. Don't give it at once, watch the case first, always give it diluted in small doses often repeated

use if indicated Hoffmans anodyne, Ether Camphor Musk &c

Turpentine Digitalis &c for weak heart

If there is inability to sleep alcohol when it does good predisposes to sleep

Opium must be used with caution & only in small doses

Moderate doses of Chloral & Bromides may be given together or separately for sleeplessness

Turpentine is a diffusible stimulant antiseptic & stimulant to the mucous membrane hence it is very good in typhoid fever, give it in emulsion

Creosote may be used as an antiseptic

Mercury is not very good

$AgNO_3$ may be used for the intestinal lesions in mild cases

arises from fermentation of food. The ordinary Tympanitis will yield to suitable treatment, but this Excessive Tympanitis is much more serious. It indicates very advanced prostration of nervo-muscular force.

VIII. **Urinary Troubles.** Retention of urine may occur without the nurse knowing it. The mere fact of there being Dribbling does not show that the Bladder is not over-distended. It may be full of fœtid urine, which gives rise to more delirium and prevents sleep. Hence it is necessary to percuss the Hypogastric region every day. *Albumin* is generally present in small quantities. We may have *Catarrhal Nephritis* in cases which go on well notwithstanding, yet the Nervous Symptoms are always aggravated by Renal trouble.

IX. **Nervous Symptoms** may be so extensive as to entitle them to consideration as complications, *e. g.*, Coma-Vigil, Stupor, a high degree of Subsultus, etc.

X. **Parotiditis** adds greatly to the suffering but not to the danger of the case.

SEQUELÆ OF TYPHOID FEVER.

Complications are accidents occurring during the course of the disease. Sequels are found after it has terminated. Of these latter we have:—

I. **Phlebitis** of the Femorals, giving rise to Phlegmasia Alba Dolens. We have pain in the calf or middle of the thigh. There is exquisite tenderness in the line of the vessels; then hardness and a chord; then swelling—not œdematous, but boggy—may appear in one leg or the other. It usually occurs on the right after the left is affected. The leg is heavy and weak, and seems paralyzed.

II. **Periostitis,** as shown by patches of inflammation, which are very painful; or exfoliation of the bone may occur.

III. **Prolonged Debility**; IV. **Anæmia**; and V. **Indigestion** may follow Typhoid from lesions in the glands which absorb peptones. The health may be permanently impaired, but generally convalescents get fat. Where this is so it is due to a revival of the powers of the gland. However, this fat is poor stuff and is not permanent. A voracious appetite is often developed.

VI. Where there are **Morbid Tendencies** in the patient they are apt to break out after Typhoid, *e. g.*, Tuberculosis.

VII. Post-Typhoid **Derangement** of the mind, and even **Insanity** is a common sequel.

Duration is a difficult thing to state. It may be over in three weeks, or may last four months. The average duration is twenty-eight days. We generally look out for changes on the twenty-sixth or twenty-seventh day.

The **Diagnosis** is extremely important. When in doubt treat the patient as though it might be Typhoid. Where there is a little headache, fever and general uneasiness, put the patient to bed and treat for Typhoid. This will modify the whole course of the disease if it turn out to be Typhoid. If not, the patient will get well all the quicker, owing to the restraint.

I. Typhus.

1. Occurs in epidemics.
2. Is contagious.
3. The danger is greatest at first.
4. Ends in Crisis.
5. The invasion is rapid. The fever runs up to 104° F. right away.
6. We have a mulberry eruption on the third day.
7. There are no complications.

Typhoid.

1. Is isolated.
2. Is not contagious.
3. The danger is greatest at the close.
4. Ends by Lysis.
5. Invasion is slow.
6. The eruption is rose-red, appears on the seventh day, and remains the same to the end.
7. There are nervous complications, diarrhœa, nose-bleed, tympanitic distension, ochre stools.

II. **Simple Continued Fever** may be hard to distinguish. There may be no Diarrhœa in Typhoid, no distension of the bowels, unless there is some specific test. In some cases we can never speak positively, even with the closest observation. The patient should always be given the benefit of the doubt.

III. **Gastro-Enteric Catarrh** sometimes is perplexing. It should be treated as though it were Typhoid, and we should look out for the Eruption, Bronchial Complications, Nose-bleed, Ochre Stools, etc. Their absence or presence will be diagnostic.

Prognosis. All statistics except those based on clinical reports are worthless. In general we may say the mortality is ten per cent. In Typhus it is sixty per cent. In a child the Prognosis is good; in an old person bad. The previous state of the health affects the Prognosis. All complications, of course, add to the gravity of the case. Our Prognosis should be a guarded one.

TREATMENT OF TYPHOID.

I. **Absolute Rest** should be insisted upon. Supposing the fever stopped on the twenty-eighth day; keep the patient in bed till the thirty-fifth. If there is a lingering ulcer which has not healed, it is possible for it to perforate on the thirtieth day.

II. The **Diet** is hard to arrange. On the one hand we find prostration, which demands an excess of nutrition, and then again the state of the intestine almost forbids digestion. In the beginning the diet should be light. The wisest course is to put the patient on an absolutely liquid diet, and to keep him on it till the thirtieth day, or until the character of the stools shows that the lesions have disappeared, or even a week after this. Give a milk diet exclusively. Its dilution is easily managed. It is unirritating and acceptable. It should be given in small quantities, at regular intervals, and a record of its administration kept. One pint and a half is enough in twenty-four hours, *i. e.*, ℥iii every three hours. We can dilute it with Lime Water, reducing it by one-third or one-half. With this we may join some meat broth, but this is of less value than milk. However, it supplies water, salines and some albumins, and we may use it alternately with milk where the patient is indisposed to take the latter exclusively. The proper method of making Beef Tea is to take a pound of lean beef, cut it finely and put it into a basin of water. Add a pinch of salt and a drop or two of muriatic acid. Let it stand four hours. Put it in a closed vessel, and this in kettle, and let it simmer. The water in the vessel should not be allowed to boil; it should only simmer. Thus the albumin is not coagulated. However, plain milk diet alone is the best. Begin by giving two ounces in two hours. Typhoid patients are to be fed day and night. If there is copious diarrhœa when there is not excessive ulceration, or tympanitic distension when nervous prostration is not adequate, we should always look on

Relapsing Fever - an acute infectious febrile disease with micro organisms in blood. attended by 2 or more paroxysms of intense fever of 5 to 7 days duration each separated by an interval of about 7 days with anatomical lesions in the spleen, liver, & kidneys

The poison is exhaled from the skin & breath & is breathed in it is transported through [illegible]. the worst outbreaks are in over crowded places. It is not so much of a famine disease as typhus. all classes suffer but mostly the poor & filthy the colored race are peculiarly liable to it

Its peculiarity is its relapses

Cause is a micro organism found in the blood

Symptoms

1 Vague - malaise - invasion is abrupt - followed by rapid & violent fever with severe pains, headache, backache, pains thro entire body

2 Pain is a very marked symptom but there is no swelling nor tenderness where the pain is felt

3 The lines of the nerve trunks are tender

4 Cerebral symptoms are generally wanting, Special senses are not affected

5 There are no characteristic respiratory symptoms

6 there is great irritation of the stomach, vomiting, bowels sluggish. no abdominal symptoms. Liver often affected, enlarged & tender with jaundice

7 Jaundice only appears in severe cases due to obstruction of liver ducts

8 Spleen is tender, firm with often pain which appears early.

9 Urine febrile may have small amt of albumen & tube casts

Patient remains in this condition about 6 days & then comes the crisis generally preceded by a sweat. 7 days from the crisis he has the 2nd attack. he may have a 2nd or 3rd relapse. each one shorter than the other.

Complications 1 - Jaundice 2 Pneumonia (common, usually croupous & fatal) 3 Local peritonitis 4 - Infectious Nephritis

Sequelae - 1 Anaemia & Weakness 2 Rheumatic Pains

when death occurs it is either sudden from collapse or from pneumonia, jaundice or Nephritis

after death we find the blood is not dissolved as in typhus but it contains the spirillae

There is congestion & catarrh of the gastric mucous membrane

Liver enlarged stained yellow & heavy; on section studded with [illegible] formations. the liver bile ducts showing catarrh

Spleen - malpighian bodies enlarged which later run together, pulp enlarged & firm

Diagnosis difficult early as there is no eruption

It may be mistaken for rheumatic fever but there is no endocarditis no acid sweats & hepatic

Diagnosed from typhus by having here gastric, duct (?) lesions & the pains in the two are different

Prognosis good. the mortality is not so high

uncomplicated cases usually get well

Treatment

Nothing can prevent the relapses tho'

Relapses seem to be promoted by exposure

Reduce the high temp. with antipyretics, mild ones having no effect—

Relieve the pain & produce sleep by hypodermics of morphia & atropia & the external use of chloroform, aconite &c—

Meet the complications as they arise

Treat gastric symptoms with calomel, opium & Bism. Bicarb—

Iron & Arsenic in convalescence—

it as the result of improper feeding, and both the amount and strength of the milk should be reduced. Try boiled milk with a little starch or arrow-root, or partially-boiled milk instead of the crude. Where milk is not acceptable Valentine's preparation may be tried.

III. **Stimulants.** Before trying stimulants give an ordinary milk diet for a couple of days; then give a little stimulant if it helps the patient to take food, beginning with the very lightest kind, as Wine Whey (one part Sherry to four of milk). Strain it off and give it in smaller quantities than you would crude milk. After the middle of the second week cases do a little better for a little stimulation. Old persons always are benefitted. There are many conditions which call for a large amount of stimulation. We are guided by the lungs, heart and nervous system. A weak pulse, rapid heart, slow respirations, a tendency to hypostasis, increasing delirium, slipping down in bed, and all low typhoid symptoms call for stimulants, which must be checked by the digestive system. If the tongue grows brown, and tympanitic distension increases, we must stop them. If necessary, do not hesitate to pour in eight, sixteen, or even thirty-two ounces of strong whiskey every day for weeks, until you pull the patient through. We would do this where there were no bad effects, and yet on stopping it unfavorable symptoms reappeared. It is better not to give stimulants too soon, but when they are demanded give them boldly, persistently, and in large amounts.

IV. **Remedies.** The lesions are in the bowels. We cannot expect to cure these as in the case of pure inflammation, as from a cold, but we may modify them. For affections of the **Mucous Membranes** give Nitrate of Silver, gr. 1/6 or 1/4, three or four times a day, in bread crumb pills, soon after the administration of liquid food, that it may be swept into the small intestine. If the Bowels are costive give Extract of Belladonna with the Nitrate of Silver. If there is diarrhœa give Opium with it. Sometimes Silver is not well borne. Then omit it and try small doses of Creasote and Carbolic Acid. **Fever,** if it is prominent and runs high, should be met with quinine, which is well borne by Typhoid patients. Gr. viii daily as a Tonic are good. Give it in the morning, because it sometimes excites the patient when fever comes on in the evening. Gr. xvi may be given, or if there is Hyperpyrexia, Sledge Hammer doses in the morning. Antipyrene is not much good, except when Quinine fails. Sponge the patient with water and vinegar. Put cold to the head. This breaks the temperature. Put the patient in the bath till the Mercury in the mouth goes down. However, it is better to avoid the cold bath and the cold pack. Generally, if we begin with proper treatment, Hyperpyrexia will not occur; but it may come on in spite of all precautions. Then resort to cold.

Diarrhœa often needs treatment. The best remedy is diet. Then Nitrate of Silver with Opium. If these fail substitute Sub-Nitrate of Bismuth, gr. x every three hours, and opium by suppository or mouth. Do not allow the diarrhœa to run ahead, but do not increase the opium. Large doses act badly in Typhoid. Give Sugar of Lead and Opium in pills. Pill of Tannic Acid and Quinine. Chalk Mixture and Tincture of Krameria. Use the rectum as an avenue of medication. Suppositories of Tannic Acid and Iron, and Enemas of simple remedies, such as Bismuth and Astringent injections, should be tried. Turpentine is valuable in diarrhœa and may be given with Compound Spirits of Lavender in an Emulsion, or, added to Opium, by the rectum.

Pulmonary Troubles and Nervous Symptoms of a low type may be treated with Carbonate of Ammonium. With this we may continue Quinine, but stop the Nitrate of Silver. For Diffused Bronchitis and Hypostasis give

Carbonate of Ammonium. Next to this comes Oil of Turpentine. It is a good stimulant to the Gastro-Intestinal tract. Immediately on being taken and afterwards it acts on the Lungs. Where the belly is tympanitic, and where there is a coated, hard, dry tongue, we may give it in emulsion in doses of gtt. x every three hours, with Quinine.

Nervous Symptoms. For *Violent Headache* apply Sinapisms to the neck and give Bromides. *Insomnia.* When the bowels are loose give Pulv. Opii, gr. ½ in the evening, or Deodorized Tincture of Opium, gtt. x-xii, in an enema, Bromide Salts, gr. x-xii, and Chloral Hydrate, gtt. v–vi, repeated if necessary. Owing to cardiac weakness Chloral may have to be omitted. Then Bromide of Potassium and Chloroform may be used, or Camphor, and Musk. If the Temperature is high, and there is a development of grave nervous symptoms, with stupor, we must reduce the fever. **Hemorrhage** is often difficult to control. If it alarms, and must be checked, give Tannic Acid internally, and Hypodermic injections of Ergotin into the Abdominal Walls, and Opium to quiet the bowels. Enemas of Per-Sulphate of Iron, Sulphate of Zinc or Alum, or of Tannic Acid, are useful. Muriatic Acid dilute, Aromatic Sulphuric, or dilute Sulphuric Acid are grateful tonics and useful, but the Mineral Acids in general are not as applicable in Typhoid as they are in Typhus.

V. **Small-Pox** is *an acute Specific Febrile disease, depending on a poison of an unknown nature, characterized by marked disturbance of the functions, and by an Eruption which passes through the Papular, Vesicular and Pustular stages with the formation of crusts, leaving pits.* The exact nature of the poison is unknown. Probably it is organic, but it has never been isolated. It gains entrance to the system through the atmosphere and respiration. The distance of possible communication is not great. It is very contagious. It attaches itself to articles of clothing. After admission, there is a

Stage of Incubation, lasting seven to fourteen days without symptoms. Then the

Stage of Invasion, marked by a chill and sudden rise of Temperature, rapid, tense pulse, very severe headache and violent pains in the loins and back, which are almost characteristic. The face is flushed, the tongue coated, the eye injected, and there is nausea, vomiting and irritation of the throat. This lasts three days. Then comes the

Stage of Eruption, which begins on the face and spreads over the whole body. After the Eruption has been out twenty-four hours, the Fever drops down and remains so for six or seven days. The course of the fever is very peculiar. We notice a break in the fever, then a period of slight fever, and then marked Secondary Fever. When the eruption comes out the symptoms diminish, and the patient feels much better.

The **Eruption** in Small-pox is at first papular, red, hard, and situated in the derm. It feels shot-like. It remains a papule for three days. Then they become converted into clear vesicles. The effusion begins on the top, and then there is red base. It stays a vesicle for three days. Then a pustule is formed. The central attachment of the cuticle to the derm remains, hence it presents a central depression. This umbilication is very characteristic. It remains a pustule three days. Then the contents get hard, and it begins to dessicate. This goes on for three days, and then desquamation takes place. From the beginning we have the Invasion, which lasts three days, and then the five stages of the Eruption, making eighteen or twenty days in all. We notice that the Secondary Fever, which comes on the ninth day, corresponds to the maturing of the pustule, at which time there is itching of the skin. This is called the Fever of Maturation or Suppuration. It has

Small Pox - Variola - is a highly infectious acute specific fever with marked constitutional disturbances subsiding on the appearance of the eruption & appearing again on maturity of eruption. the eruption leaving pits. no anatomical lesions except those of the blood

Course 21 days. it is intensely contagious
age is no protection. nor season neither it is more apt to occur in cold than warm weather. It protects against a 2nd attack. no micro organism has been found.

Morbid Anatomy - Limited to the eruption which is not limited to the skin but occurs on the mucous membranes
The muscle of the heart is apt to be affected
The kidneys are liable to nephritis

Clinical History

Incubation 12 to 14 days - Prodromes malaise headache etc
Invasion is abrupt often beginning with a chill then high fever (103) & most intense backache with an intense headache & frequent vomiting
Invasion lasts 3 days & then comes the eruption & then the symptoms abate, the fever goes down pain ceases & vomiting stops
then comes the papular stage of red hard papules feeling like shot embedded in the derm. they may be few in no. or a great many.
all the stages last 3 days -
Now comes the vesicular stage. the papules being turned into vesicles
During all this time constitutional symptoms are mild
Then comes the pustular stage the vesicles are filled with leucocytes & form into a pustule
The vesicles & pustules are umbilicated
As soon as the vesicles turn to pustules we get a return of the symptoms and a suppurative fever, the fever being of the septic type rising & falling
The worse the eruption the higher the secondary fever
Then comes the stage of desiccation or drying, drying into a thick brown crust. this stage lasts 3 days.
So, 12 or 15 days have been taken for the process
Now comes the stage of desquamation lasting 3 days making the process 18 days.
The disease terminates by crisis which may occur by profuse urination or by diarrhoea and the discharge may be enormous
The convalescence is rapid & not complicated

Varieties. Discrete when they are scattered spots
Confluent - " the spots run together
the initial fever may be the same in each

In Discrete the secondary fever is mild
" Confluent " " " " severe

Malignant or Black Small Pox - very fatal - initial symptoms very severe eg. violent fever, delirium papules feebly developed & softer & darker than ordinary the vesicles don't fill up right. Urine is bloody. Death in collapse.

Varioloid - Small Pox after vaccination varies in its effects & severity but is usually not severe. It is just as contagious as small pox. The pre eruptive period with its initial symptoms are just like those of small pox. The eruption is the same in both cases & so are the constitutional sympts. When the eruption becomes vesicular they are less umbilicated than in true small pox & when it has lasted 3 days they dry up & there are no secondary sympts as in true small pox.

At the end of the vesicular stage the disease aborts

Complications of Small Pox

I Extension of eruption to the mucous membranes giving rise to laryngitis, or to bronchii giving bronchitis &c.

II The muscles & membranes of the heart may be affected giving rise to organic disease of the heart.

III Infectious Nephritis (not so common)

IV Suppurative Conjunctivitis & otitis causing blindness & deafness

V Pitting of the skin - Scars -

Diagnosis - You can't diagnose before the day when you see eruption

Prognosis Good in general. Average cases usually get well. Varioloid is not at all dangerous but it may leave scars

Treatment - Symptomatic - meet the indications - allay pain & reduce fever, antipyrin & quinine - Rest in bed. Strict diet. Dark room. Soften & soothe the skin - by excluding light, rub mercurial ointment on skin. Protect by gloves & a mask.

You may apply a saturated solution of gutta percha in chloroform with iodoform, it is protective & excludes light.

In secondary fever - feed as before & now begin to support - the system with stimulants &c

the hypodermic use of creosote can be employed.

Use quinine or very small doses of antipyrin &c

nothing to do with the internal renewal of the Septic poison. It depends on the effect of the local lesion. The whole process is dominated by the suppuration of the derm. The patient now becomes restless, has pain in the head and back. Delirium ensues. The appetite fails. The urine is scanty, the tongue coated. This Secondary Fever is generally much higher than the Primary. There are some Peculiarities. The Eruption may be very scanty. A single spot may be found. Usually there are a number. These, if scattered over the face, are called Discrete. If they run together they are termed Confluent. Varioloid is found in those partly protected by vaccination. While the power of vaccination is generally absolute for a certain number of years, it loses its power. Varioloid does not differ in the beginning from Small-pox. The papules are just those of Variola. The fever drops and the papule turns into a vesicle; but—

1. There is no Suppurative Fever.
2. There is no formation of pustules.
3. Scales form, and the process is over by the tenth day.
4. No pitting is left behind.

We have as another extreme **Malignant** or **Hemorrhagic Variola.** It begins in the same way, but we have adynamic symptoms. The extremities are cool, while the central temperature is high. The Eruption passes into a Vesicle, but its contents become turbid, and a sanguineous exudate comes out on pricking it. The symptoms become typhoid, with a tendency to relapse. The mucous membrane of the nose and gums has a tendency to bleed. The urine is often albuminous. The pustular stage is not fully developed. Recovery seldom takes place, and death occurs between the fourth and twelfth day.

Complications of Small-Pox. If the case is left to itself the eruptions may leave Cicatrices. These are seen principally on the face. Sometimes there is no pitting. Again there is a great deal. The mucous membranes sometimes suffer. Ulceration of the cornea and blindness are common. Deafness may result from eruptions on the canals of the ear. There may be eruptions on the Gastro-Intestinal tract. The Larynx, Trachea and Bronchi may be the seat of violent eruptions, hence we get Bronchitis and Pneumonia. **Duration** of *Varioloid* is from ten to twelve days. *Variola* may last eighteen days and onward. Irritation of the skin may keep it up twenty-five to thirty days. **Termination** is by Lysis or Crisis. As there is no Sweating, Crisis takes place by Urination or intense Purging, 250 ounces of urine may be passed and then the eruption dry up.

Diagnosis is easy but important, because the disease is contagious. There is nothing in the stage of Invasion to justify a Diagnosis. If there has been exposure, the sudden high fever, nausea, headache, should make us suspicious. One attack protects against a second. Hence we should inquire which of the eruptive fevers the patient has had. Small-Pox is not a disease of childhood, though children *are* susceptible. We further gain assistance in our Diagnosis by the time of the appearance of the eruption. That of Scarlet Fever comes out on the second day; Measles and Typhus on the third. In *Typhus* we have Mulberry patches, disappearing on pressure, while the eruption of Small-Pox is hard and shot-like, and *under the skin*. In *Measles* we have marked Catarrhal Symptoms, Redness of the eyes, Sneezing, Running from the nose. These are absent in Small-Pox.

The **Prognosis** is generally good. There is danger, however, of Deformity, Deafness and Blindness. It is very fatal in pregnant women, very old and very young persons. In very severe *Confluent Small-Pox* there is danger of exhaustion from high Secondary Fever. The *Hemorrhagic* form is very fatal.

The **Treatment** is very simple. **I. Invasion.** The indications are to relieve the Fever, Distress and Restlessness. For this use Opium, Febrifuges, and Aconite.

Stage II. Keep the patient quiet. Avoid all irritative diet, and heating articles, knowing that *Secondary Fever* is coming on.

Stage III. In the *Secondary Fever* adopt a stimulating and supporting plan of treatment. The tendency is to exhaustion and Typhoid Symptoms. Throughout the course of the disease the skin needs care. From the beginning give great attention to the eyes. Keep them well protected. The skin should be protected from light. Use sedative and alterative local applications, *e. g.*, a solution of gutta percha and chloroform painted on the face —the chloroform evaporates and leaves a covering on the face—or Ointment of Lead, or Mercury on soft kid. Some of these should always be made. Where there are very few spots we may puncture them and lightly cauterize the base with a pencil of Nitrate of Silver. This is only applicable to Discrete Cases.

Vaccination. Formerly human matter was used, a scab being rubbed to a powder and mixed with glycerin and water. The objection to this is the danger of mistaking a Syphilitic Eruption for one of Small-Pox. Animal virus is the best. It is really a modification of Small-Pox in the cow. If human virus is used it must be fresh, and from a healthy subject. The appearance of the Vaccine crusts must be studied. They are rounded, and the upper surface is hollow. The under surface is crossed, thatched, and of a brownish color. They should not be black from blood.

Method of Performance. It should be on the outer surface of the leg or arm. No blood should actually flow. An ivory point should be used to apply the virus, which should be well worked in. The spot should be allowed to dry. If the child is restless we may put on a little cage-like bunion plaster to protect the spot.

Phenomena following Vaccination. There is a period of Incubation of three days, during which there are no Symptoms; then Swelling and Redness begin, and increase till the vesicle is surrounded by a blush. During this time the child is restless, and has loss of appetite. After three days a Pustule forms, which is umbilicated, the contents thickening and becoming dry. After twelve to fifteen days the crust falls off. The whole process occupies eighteen to twenty days, and corresponds to that observed in Small-Pox. It differs, however, from Small-Pox, in being over a wider area. The general symptoms only last a few days. The inflammation may be considerable, extending over one and a half inches. There may be some **Complications.** *Swelling of the Glands*, particularly in Scrofulous children. There may be an *Eruption* on the body at the period of greatest irritation. *Erysipelas* may occur, but it is rare. It is the habit not to perform Vaccination where there is much irritation of the skin. The *General Symptoms* may run very high. There may be excessive *Nervous Symptoms*, Delirium, etc.

Results of Vaccination. If properly performed, it should be an absolute protective. We must be sure that the changes take place in the true order of a Vaccine Eruption. The child must be seen on the third day. The protection is more perfect if two points have been vaccinated. Its power wears out in five years. We generally vaccinate children in the third month. There is less cutaneous irritability and less marked symptoms. We should vaccinate at the seventh year. Then at puberty. When Small-Pox breaks out in any community, the Virus of Variola may be exhibited by

Vaccination - Is process of giving vaccine disease to human beings. occurs in cows with an eruption on the teats
Inoculation is the introduction of the virus of small pox itself into a healthy person & causes contagion, & altho it may do the person good it does harm to the community by spreading the disease & hence is a criminal act

Method - Cow virus is superior to human virus & is more certain in its action. do not draw blood &c
If done on the leg do it on the outside
Time at which it should be done. Don't do it before the 3rd or 4th month, unless if actually necessary it may be done on 1st day.

What Happens - First a period of incubation lasting 3 days & then the eruption appears as a small red papule which by the close of the 6th day becomes a vesicle upon a red base. the base spreads, the vesicle is umbilicated. it becomes pustular about the 9th day. then comes desiccation and then desquamation, the entire process lasting about 18 days.

Constitutional Sympts 1st 3 days none - then malaise & when pustule comes secondary fever to be seen in small pox but not near so severe. the glands in axillae or groin depending upon place vaccinated may become swollen
Erysipelas may attend the wound. take care child don't tear card
Complications may occur in persons of a rheumatic, gouty or scrofulous diathesis or from taking cold.
The protection may last thro life but this is rare. it however usually lasts from 6 to 8 yrs when the person would get varioloid. Hence do 2nd time at age of 7 or 8 yrs. Then again at 18 yrs. If it don't take at 7 do it again at 8 & if it don't take then don't do it again until 18 yrs & then don't do it again unless person is going to be exposed as going on a long journey &c
Keep a record of your cases in your casebook
Don't do it a 2nd or 3rd time when person is in delicate health

Scarlet fever or Scarlatina - an acute infectious febrile disease, stadium of 10 to 12 days. rash, sore throat, followed by desquamation & a tendency to nephritis

Scarlet rash is never scarlet fever but only an erythema since scarlet rash does not protect from scarlet fever

The poison is very widely diffused & is a specific virus developed outside of the body by successive passages. It retains its vitality for a long time & is communicated thro the atmosphere & protects from a second attack

It sometimes coexists with measles but not in scarlatinal [illegible]

Early childhood is a predisposing cause (2 to 12 yrs) it may however occur at any period of life

Pregnancy seems to raise its susceptibility

Clinical History:

Types or Forms I Mild - symptoms not fully developed
II Ordinary well developed
III Anginose (severe throat symptoms)
IV Grave
V Malignant

Ordinary:

1. Period of incubation 10 days, invasion preceded by no prodromes hence very abrupt - marked by little or no rigor but with pain headache vomiting high fever rapid pulse & pain on swallowing
2 Rise in fever & pulse very rapid (103° to 104°) (140 to 150) Skin very hot (dry)
3 Breathing not in accord with pulse rate
4 Appetite lost, tonsils red & swollen.
5 Eruption appears in 24 hrs & course is 10 to 12 days
6 T. fever stays high from beginning to end & then drops suddenly, range 104-106
it may vary about 1° but there is no abrupt drop
7 Nervous symptoms are marked such as - Delirium - deepening into stupor restlessness, muscular twitchings convulsions (sometimes)
8 Throat symptoms - indicated from start - as - soreness on swallowing tonsils & glands at angle of jaw swollen &c
9 no characteristic lung symptoms (valvulitis)
10 Heart is distended & excited with maybe a systolic valvular murmur heart failure is to be dreaded in bad cases
11 Urine febrile but no albumen in the earlier stages but in desquamation there is albumen
12 Eruption is a uniform scarlet blush, beginning in neck & [illegible] & spreading over the entire surface. it is dotted over with fine dark points (punctiform) due to injection of capillaries, during
It lasts 8 or 9 days & fades as the fever declines & then comes desquamation which is the exfoliation of the dead cuticle
The cuticle is very poisonous & should be burned
Six or two weeks are necessary for the completion of the desquamation & during that time the child is [illegible] & the dangers of complications are so great in mild as in severe cases

persons who have been vaccinated three times. This Varioloid may communicate the worst form of Variola to susceptible people. Inflammation, or Spurious Vaccination, is not a protecting virus. It is probably organic. It lasts from ten to thirteen days, and is only an accidental inflammation.

Scarlet Fever, or Scarlatina, *is a contagious epidemic febrile disease, due to an unknown poison, characterized by a high fever, rapid pulse, sore throat, peculiar rash, running a course of ten or twelve days, followed by desquamation of the cuticle, with no lesion of the solids, but with a great liability to catarrhal nephritis.* We do not know the exact poison. It is less contagious than Small-Pox, Typhus or Measles, but it *is* contagious. It is evidently epidemic. There is a vast difference in the malignity of various epidemics.

Stage of Incubation. The poison has got in through the air or food. No Symptoms are produced for a variable period while the poison is incubating. This lasts from seven to ten days.

Stage of Invasion is marked by the rapid development of high fever. In six hours, the temperature may run up from normal to 104° F. At the end of the second day, it is at its maximum. With this we have a high pulse rate. In a few hours, it may reach 140 to 150 beats per minute. The skin is intensely hot. There are marked Nervous Symptoms, great restlessness, delirium, Jactat , and Convulsions, or the child may be dull and heavy, and grit its teeth. **Vomiting** is usual. When it has been repeated a few times, the stomach becomes settled. The **tongue** is peculiar. There is a thick white coat over the dorsum. The papillæ are red and swollen, showing through the white, and the edges are red. There is **Sore Throat** almost from the first. Swallowing gives some pain. The glands at the angle of the jaw swell moderately. The Tonsils are enlarged and very red. An **eruption** soon appears. There are generally signs at the end of the twenty-four hours. In no disease is the eruption so rapid. It is a uniform vivid scarlet blush, covering large patches of skin. Over the surface are dots which are the congested papillæ of the skin, giving a punctate appearance. The whole body is covered. The soft skin of the trunk, the inside of the thighs are special seats. We now have the case fully developed, and for five days it runs along with high fever, very rapid pulse, sore throat, enlarged glands, characteristic eruption, and nervous symptoms not so well marked, as in the First Stage. The fever gradually subsides by Lysis, and by the eleventh day, is over.

Desquamation begins about the tenth day, as the fever subsides. The skin comes off in flakes; not small, branny flakes, but in large patches. Large portions desquamate as a whole. This occupies at least two or three weeks in many cases. The foregoing is a typical case of Scarlatina Simplex. There are certain varieties. In very

Mild and latent types the Symptoms are poorly developed. A child may be desquamating and yet never have had any indisposition. We find Catarrhal Nephritis and Dropsy. This, however, is unusual. We generally have Febrile Symptoms, a little sore throat and restlessness, a mild blush, and all is over in three or four days; and then Sequelæ come on from neglect. Severe Bright's disease may thus ensue. Again we have the

Anginose Type. This usually begins as a severe case. There is great acceleration of the pulse, high fever and sore throat from the first, yet it is not until the third day that we find increasing swelling at the angles of the jaw. This is very painful. The Tonsils almost meet and close the throat. Sometimes there is Herpetic Tonsilitis. Sometimes large pseudo-membranous patches are formed, which may spread from the Tonsils to the

Uvula, and look like Diphtheria, The Posterior nares are closed. There is troublesome Nasal Catarrh. At the same time the secretions decompose and are very fœtid. The Symptoms assume a Typhoid type. The Eruption in these cases is often vivid and well developed, but if the patient is weak the Eruption may fade and become partial. This Anginose type is very fatal. Death may occur on the sixth or seventh day. If it does not, the case runs on with high fever, rapid pulse and nervous symptoms. The Glands suppurate, and may break into the Eustachian Tube. The Tonsils slough. A Half arch may be carried away, and a period of three weeks elapse before convalescence.

Malignant. Here the malignancy shows itself by the intensity of the blood changes, and not in local lesions. It does not always develop in the same way. The Temperature may run to 108° F., 109° F., and even 110° F. in from forty-eight to seventy-two hours. The highest Temperatures known, except in the case of sunstroke, occur in this form. We have a sudden development of hyper-pyrexia in good health. Convulsions alternating with Coma, and death in twelve, twenty-four, thirty-six, or forty-eight hours. There may not be time for the eruption to appear before death. There is hardly any morbid condition which strikes so rapidly or fatally. We may not have such very high Temperature, but a rapid and exceedingly feeble pulse, stupor and convulsions, alternating with Delirium. The eruption is tardy, but when it does come out it is blotchy and dark. The throat is swollen and livid, the nostrils and breath fœtid. Lividity of the hands and face appears, and the case may terminate on the fourth or fifth day. We may have here evidences of excessive dissolution of the blood.

Complications. 1. *Hyperpyrexia.* The temperature in Scarlet Fever may be excessively high. It may reach 105° F. or 106° F. Above this it is rare. Yet it is not so fatal as in other Fevers, since children get it more rapidly; and again we find no serious lesions of the solids. 2. *Nervous Symptoms* are not so serious. Many cases which present them even at an early stage often run a prosperous course. When they come late in the disease *Convulsions* are much more serious. They are then connected with Renal troubles and Blood disturbances. 3. *Sore Throat* is always present. As we have seen, there is a distinct form known as Anginose Scarlet Fever. **Sequels** are numerous. In no disease is **Nephritis** more common. It is Acute Catarrhal Nephritis. There is Cloudy Swelling and Proliferation of Epithelium. Desquamation, Inflammation and obstruction of the Malpighian Tufts. It may run into a Sub-Acute or Chronic type. The cells may undergo fatty or granular degeneration. However, in many instances the lesions subside and the organ returns to its normal state. This complication comes on late in the disease. When Desquamation has begun there seems to be a special degree of weakness of the kidney, and a tendency to inflammation, and cloudy swelling, and it seems as though nothing we can do will prevent the Nephritis. However, in some cases it is due to some imprudence during the stage of Desquamation, *e. g.*, a child standing at a cold window with his hands on the panes for a few minutes. As the skin is in a bad condition more blood is thrown on the kidney, and congestion results. The *Symptoms of Catarrhal Nephritis* are those of this condition generally. If it comes on during the Stadium the Symptoms are obscured by those of the Scarlet Fever itself. We have *Puffiness* of the face, *Rigor*, *Return of the Fever*, *Pain* in the back, *Nausea*, and a few acts of *Vomiting*. The *Urine* is scanty, high-colored, bloody and albuminous, containing Epithelium and Tube casts. There is great danger of Uræmia. *Nervous Symptoms* appear. Stupor and Coma, alternating with Convulsions.

Anginose – here the throat symptoms predominate & gangrene. The glands of the neck may be enormously swollen & the tonsils get very large with a gray shreddy membrane on them. Respiration may be obstructed by the false membrane which extends into the nares. Swallowing is interfered with & the secretions may go to the stomach & cause diarrhoea

Grave – 1 hyperpyrexia 106° to 107° – Irregular eruption – violent nervous sympt.
2 violent throat sympt. – Convulsions followed by deep stupor
3 Eruption may be intense or imperfectly developed especially over extremities
4 Complications are common nephritis &c
5 Mortality high 1/3 die – the case is protracted the fever being kept up by the complications
6 Dusky, blotchy or imperfect eruptions denote danger

Malignant – chiefly marked by intense dissolution of the blood & the intense nervous symptoms. 6 hours after the 1st signs of the disease death may occur with putrefaction
Temp. is very high often 110° F – & the eruption scarcely has time to appear & if it does it is scanty.
There is no time for ~~throat~~ sympt. to develop
Urine is loaded with albumen & pulse can't be counted
Delirium rapidly comes on & Resp is sighing & irregular
Recovery scarcely ever takes place in this form of scarlet fever

Complications of Scarlet Fever
I Convulsions & exaggerated nervous sympt. (convulsions are serious)
II Throat, Eye or Ear Complications
III Severe laryngitis with sometimes membranous formation
IV The serous membranes may be affected causing endocarditis often resulting in heart failure
V Pleurisy (often purulent)
VI Nephritis (common) it follows the disease, it is infection catarrhal nephritis with swelling & proliferation of the cells of the lining membrane of the tubules causing the tubule to become plugged with tube casts
The least exposure will cause this nephritis
The symptoms of nephritis in scarlet fever may be insidious hence examine urine daily especially during convalescence
Symptoms are oedema of eyelids, hands & feet which spreads rapidly
vomiting, nervous symptoms or uraemic convulsions & muscular twitchings, urine scanty & smoky with much albumen
this form of nephritis is very dangerous.
VII Sudden blindness or internal effusions with nephritis

Sequels I Kidney trouble II Rheumatism (very obstinate & often causes deformity)
III Perforation of ear drum & deafness IV Blindness
V changes in the nervous system causing meningitis epilepsy &c

Diagnosis of great importance – best plan is to suspect it & treat as such in children who have not had it & get a sudden fever
The eruption & sore throat are diagnostic
From Diphtheria by the onset which in D. is not so abrupt – & the pulse in D. is not so rapid & there is no eruption
In D. the pseudo membrane is early, late in Scarlet fever
Albuminuria occurs early in D. with no tube casts, late with tube casts in scarlet fever
Dropsy is rare in D. Paralysis is a sequel of D. & not of Scarlet fever

Treatment

I Hygiene & absolute rest in bed even in mild cases [illegible] there until end of desquamation

II Isolation of the case & Disinfection of everything

III We have no specific & no control over the disease

IV Give nourishment & stimulants & control fever & guard against complications

V Sustain the system with a light diet of milk & broths, guard against over feeding but then give as much as can be digested
In many cases no stimulants are needed in the early stages but if they are give alcohol or Ammon Carb or Digitalis & others

VI Control fever with cold water &c

VII Use inunctions of grease to skin thro entire disease

VIII Remedies of general service as free H Cl with Tr Ferri Chlor given in free doses from beginning to end.

IX For throat give H Cl with the foregoing mixture & local applications of Iron, Potash & Glycerine with a brush & spray throat with some acid or lime water

X Packing throat with ice to reduce swelling
the internal use of small pieces of ice is very good

XI Renal Complications - Continue the treatment until desquamation is finished so as to combat all this complication
Examine urine frequently & if albumen is found give [illegible] [illegible]
Use extra care with the clothing
Here keep up the Iron & Digitalis
If dropsy increases give pilocarpin, the vapor bath &c &c

The **Prognosis**, however, is favorable if we recognize it early and treat it till it is cured; but if not, it may develop Chronic Bright's Disease years after. The symptoms, we should remember, are very slight. There may be but a little puffiness of the eyes, and a little change in the urine. *Hence the urine should be examined for months after convalescence.*

Rheumatism is another complication. Probably there exists a previous Diathesis. It comes on as a subacute Rheumatoid Arthritis following the disease. It may run into suppurative disease of the joints. Some cases run into Coxalgia.

Abscesses, deep seated, are very common, and Inflammation of the Eye and Ear giving rise to Opacity of the Cornea and Otitis. Blindness and Deafness may result.

Baldness and Cutaneous Eruptions are common sequels.

Nervous Sequels are common. The whole mental development may be arrested, and even Imbecility result.

Paralysis may occur, but this is rare; whereas, in Diphtheria, paralysis is the common sequel.

Diagnosis. The abrupt invasion, rapid rise of Temperature, Sore Throat, the Pulse rate, Nervous Symptoms, and early Eruption make the diagnosis easy. But in some cases we merely have a blush which cannot be told from Febrile Roseola. Then we must only keep the child quiet when there is doubt. Be particular in distinguishing Scarlet Fever and Diphtheria. There is no difficulty in diagnosing it from Measles. In some cases there may be no Eruption and no Sore Throat, only a sudden fever, nervous symptoms, and death.

Prognosis. The mortality is influenced by such unfavorable symptoms as intense fever. Convulsions when they come on early, and still more so when they appear very late. Early renal complications. Swelling of the glands, any severe gastritis, pulmonary complications, pericarditis, or endocarditis. In a word, any internal complications are unfavorable, so is a tardy eruption. However, about 85 per cent. to 90 per cent. of cases get well.

Treatment. Absolute rest in bed is necessary. Extreme attention must be paid to isolation, as in Measles, but every one is more anxious about Scarlet Fever. In a family, the remaining children should be removed at once. Antiseptic precautions must be adopted. Place vessels in the room containing Chlorinated Lime, Soda, or Carbolic Acid. Hang wet cloths at the doors. The air of the room must be attended to. Liquid and light nourishment as much as the child wants should be allowed. Generally children will not take enough. Give water as freely as the child will swallow it, and scraps of ice. Ice cream, chicken broth, frozen bits of beef tea will soothe the sore throat, and at the same time coax a little nourishment into the child. Enematas of nutrition may be tried, but we often excite Diarrhœa and increase nervous symptoms by too many Enemas. Three in twenty-four hours of about two ounces each, and not too concentrated, are quite enough. The *Fever* must be treated by Sponging and Inunction. The use of some fatty substance prevents the Nephritis of a later stage, *e. g.*, cold cream, glycerine, olive oil, or cocoanut oil. They render the skin better able to disperse Caloric. There is no disease in which the external use of Cold is better. A bath beginning moderately warm and reduced till the Temperature falls is good for children. Some bear 104° F. and 105° F. with impunity. For these cases sponging will be sufficient. When the Temperature comes on at once we must bring it down immediately with baths. If let alone, changes in the heart and other tissues may be fatal. With this join the use of Quinine in large amounts by the rectum, or give Antipyrene which

permits a greater dispersion of Caloric. With regard to *Drugs*, Iron and Mineral Acids, Iron gtt. x and Muriatic Acid, Dilute, gtt. ii–iii may be given to a child of five every two hours. For marked Nervous Symptoms give diffusible stimulants, as Carbonate of Ammonia, Bromide of Potassium, Bromide of Ammonium, etc. For the *Throat*, order sprays of antiseptic and astringent liquids. If a pseudo-membrane forms, apply Saturated Solutions of Iodoform in Ether or Glycerine (f℥ij to f℥i) with a brush. Tincture of the Chloride of Iron and strong Boracic Acid are valuable. If the Swelling is great, External applications of soothing liniments and ice-bags should be placed over the glands, or, where suppuration is imminent, Laudanum and Poultices should be used.

Measles, *or Rubeolæ, is an acute, specific, contagious, febrile disease, characterized by a crescentic eruption, which appears on the third or fourth day, without lesions of the solids, and lasting about ten days.* It is very contagious—more so than Scarlet Fever. It is less liable to attack isolated members of a family. Its poison is like that of other specific diseases. Its minute nature is unknown. It gets in through the Respiratory organs. It is a disease of childhood. All children take it, and are subsequently protected. One attack protects against another. An adult is more liable to it than to Scarlet Fever. In all wars we have outbreaks of "Camp Measles." It is a general rule that Measles is a children's disease, because adults have had it in childhood. It is not more fatal in adults. It is apt to leave troublesome sequels.

Symptoms. We have first the **Stage of Incubation,** lasting twelve to fourteen days, with no symptoms till perhaps the last few days. Then the **Stage of Invasion,** of three days' duration, marked by fever of a remittent or intermittent type. The type of the Fever is not imitated by any other. Next comes the **Eruption,** which appears on the third or fourth day. This lasts six or eight days, making ten or twelve days in all. During the Fever Stage we have injection of the Conjunctiva, Cough and Coryza. The appetite is lost. Nervous Symptoms are not very severe. The **Eruption** comes out in the form of flat papules congested, which soon run together and have a crescentic border. They are dark red. At times they are so close that we find a couple of inches covered together. They appear first on the face, and then on the body and limbs. When the Eruption comes out the general symptoms get worse, but the fever runs its course and terminates by Lysis. There is increased irritation of the eyes, and intolerance of light, and even of noise. The sneezing and Coryza continue. The Cough continues and is hard and paroxysmal. Breathing is hurried, and we find Bronchitis. The Tongue is coated, and there is an utter absence of thirst and appetite. The Urine is febrile but without albumin. Nervous Symptoms are mild. In the early part of the disease there is drowsiness. Even in the invasion there is a tendency to sleep, or there may be restlessness, and even a little delirium. Nervous Symptoms, if severe, come late, and are due to the severity of the case. These symptoms subside about the ninth day. The Eruption becomes paler and gradually fades away. We have fine, branny desquamation. It does come off in rolls. The process terminates in recovery in the vast majority of cases in ten or twelve days.

Complications. We may have *Rubeolæ Sine Eruptione*, where a child who is susceptible is exposed and has the irritation, but no external rash. Still the child is thus protected against measles. The Eruption which always exists on the mucous membrane is unusually severe. We have an extra amount of Bronchial trouble. Measles without rash is always met with in an Epidemic. Again, we may have such slight evidences of Bronchial trouble,

Measles an acute specific infectious febrile disease occurring in childhood - with eruptions & catarrhal symptoms - Course 10 days

Cause - a specific virus carried by the air - no doubt a microorganism
childhood is a predisposing cause, the disease is rare in adults
It has no specific anatomical lesions except the catarrhal & those of the blood

Varieties I Ordinary II Measles without rash III Measles without Catarrh
IV Grave & Complicated V Malignant or Black

Symptoms Incubation 7 to 10 days - Prodromes very slight - languor &c
Invasion abrupt but with moderate fever & decided catarrh as sneezing &c
& frequent hard dry cough. Often drowsiness. Invasion lasts 3 days & then comes
the Eruption which appears as dull red small rounded slightly
elevated spots disappearing on pressure & showing a tendency to
run together in clusters & then clusters to form patches with
curved edges. It appears first on the head and neck.
The fever is often remittent in type during stage of invasion
after the eruption the fever becomes more steady & gets higher & determines
with a rapid decline
Nervous symptoms are not very severe restlessness &c
There may be rales showing bronchitis
Tongue is coated white with red edges, stomach is irritable
Bowels sluggish - sometimes [illegible] but no kidney symptoms
The fading of the eruption is followed by desquamation which
brushes off & does not peel off like that of scarlet fever
The Convalescence is marked by a catarrhal tendency

Measles without Rash due to concentration of disease on the mucous membrane
& is relieved by putting child in a hot bath which will bring out the
eruption & relieve the mucous membrane
There may be violent conjunctivitis or violent croup - or
capillary bronchitis which goes into catarrhal pneumonia & pulmonary collapse
Severe nervous symptoms may also come on

Malignant or Black Measles - appears in crowded places the eruption
becomes petechial, blood disordered, serious brain symptoms
urine may contain blood. It is generally fatal.

Sequels - Continuance of Catarrhal process as chronic conjunctivitis &c
Catarrh of the Ear, Irritable Larynx & chronic bronchitis,)

Treatment - Confine patient to bed. Keep from draughts, cold. [illegible]
room darkened on account of eye symptoms. Diet light, very little
[illegible] treatment is needed. Give some light [illegible]
[illegible] & [illegible]
Control [illegible] with [illegible] an effervescing draught
made from lemon juice & Potass Bicarb. May use [illegible]
Ammonia & Quinine. Bromides & Chloral for restlessness
When the laryngeal catarrh is bad use lime water or a spray
of boracic acid with atomizer
Sponging [illegible] when [illegible] is taken & the diet is light —

Rotheln an acute specific febrile disease without anatomical lesions
with a red maculated eruption, little or no catarrh, with
sore throat - glandular enlargement & occasional desquamation
Childhood is a predisposing cause but grown people may get it —
Second attacks are very rare, It is a disease of not much gravity
Incubation 10 to 12 days - premonitory symptoms [illegible]. Invasion mild
& often first sign of disease is the eruption. There is a little fever
restlessness - pain in swallowing, throat red & swollen, glands [illegible]
Sometimes there is cough or running from eyes, eruption [illegible] 3 or 4
days Treatment rest in bed, mild diet. [illegible]

Epidemic Cerebro-Spinal Meningitis or Spotted Fever

An epidemic specific febrile disease – Cause unknown.

Anatomy. changes in the blood, enlargement of spleen Suppuration

Cerebro spinal meningitis. fever, eruption, course

12 to 14 days with a high mortality.

Cause – the disease – rises & breaks out in an unexpected way

may occur anywhere & attacks any number of people

It is infectious but not so highly as Typhus & Relapsing.

The lesions affect the nervous system

It is not a local disease but a constitutional one, it strikes

rich & poor alike but mostly when constitution is defective

It occurs in both sexes, at all ages & seasons & in all climates

one attack protects against others!

Anatomically - Lesions in cerebro spinal axis, intense injection

serous infiltration pus in 3 or 4 days - the cortex is injected

& slightly softened

No organism has been found

Blood Liquid & dark

Symptoms - 1 Period of Incubation one week - few Prodromes

2 Invasion abrupt - initial symptoms - headache, pain in back

of neck pain in back & limbs

3 Eyes wild & staring due to suffering of patient

4 Tendency to retract head, with soreness & stiffness of the

muscles of head & neck & hyperaesthesia of other muscles

5 Fever - rises rapidly 103 to 105° on 2nd day

6 Local sweatings are common

7 - Nervous Symptoms - delirium early, is violent & alternates

with dullness & then going to stupor

8 - Cutaneous & muscular hyperaesthesia

9 - Eruptions - Not constant - they are slate colored blotches

irregular in shape, not elevated, situated on varying

parts of the body - appear in a single crop

10 - Special senses are seriously affected - painful vision

& hearing &c

11 Lungs not affected -

12 Disease lasts from 10 to 14 days & then terminates

by a gradual decline - Mortality 50% -

Complications - Convulsions

Vision or hearing lost or impaired

Treatment - is very unsatisfactory

1 - Meet the indications as they arise

2 Control the fever

3 Relieve the suffering

4 Prevent exudation into the cerebro spinal axis

5 Preserve life.

Control the fever with quinine & external use of

cold water

that we have Measles without Catarrh, but "German Measles" has only lately been separated from Measles. It is a wholly distinct thing. It does not protect against Measles and can be taken by those who have had Measles. We must not confound "German Measles" with Measles without Catarrh. Such mistakes have led to this belief, that Second attacks of Measles are common. In these cases, the supposed first attack was probably German Measles.

Hemorrhagic or Black Measles. Here from the first, we have extreme prostration. The Eruption is scanty, and under the skin, we find extensive Ecchymoses. There is a marked tendency to Pulmonary Complications. The nervous symptoms are Typhoid in character, and the rate of mortality high; yet, Petechiæ may occur where the gravity is not severe. This is rather an idiosyncracy than a separate form of the disease. There is no lesion of the solids. The organs diseased are generally the respiratory. Thus Laryngitis may be a serious complication. There is tenderness over the Larynx, Cough, mechanical obstruction to breathing, and loss of voice. It may be fatal, but generally yields to treatment.

Severe Bronchitis is common. Only when it is capillary and very severe, does it add gravity to the case. It increases the fever and dyspnœa. It may be attended with Pulmonary Collapse. Its onset is marked by very severe Nervous Symptoms as Convulsions.

SEQUELÆ OF MEASLES.

Catarrhal Pneumonia often follows Measles. When in this connection, it is graver and more fatal than when idiopathic. Ophthalmia and Chronic Conjunctivitis are common in Scrofulous children. Affections of the ears as Otorhea may occur. It is very common in Scarlet Fever. Chronic Bronchitis is a common sequel with or without Emphysema. We may have Tubercles, or Catarrhal Pneumonia may run into Phthisis. Where the Eruption has developed on the Intestinal tract, Catarrhal Dyspepsia may follow, and the digestion be ruined for five or six years, or Gastritis may follow severely enough to threaten life. It may protract the convalescence and cause anæmia and general debility. The influence of Measles is often persistent and the Complexion may be left rough for years.

The **Prognosis**, as regards recovery from the immediate attack, is very good. It is only when there are serious Pulmonary complications and Blood Dissolution in Epidemics that the disease assumes a fatal form. While Measles, except in the severe hemorrhage form, is not very fatal, yet the mortality which follows *from* Measles is very great. Ordinarily, however, the mortality is about one per cent.

The **Diagnosis** of Measles is interesting, but not always very easy. The sudden fever, bronchial cough, coryza and inflammation of the Conjunctiva would eliminate all the other fevers, and we would only be in doubt about influenza. There should be no difficulty about *Scarlet Fever*. There we have a sudden and intense fever, absence of conjunctivitis and cough, and the appearance of an Eruption in twenty-four hours. The Complications and Sequels are different. When we see a child on the second day, and the Eruption is patchy and not perfect, and throat symptoms not very severe, we must go by the History of the case. *Typhus* can easily be distinguished, but when the two coincide we cannot easily tell which predominates. However, the Bronchial trouble and Remittent Fever would set us right. The resemblance between the eruptions soon disappear. The papules always

remain papules in Measles. *Small-Pox.* Here, too, the Eruption comes out on the same day, but the Invasion of Small-Pox is marked by no Bronchial trouble. There is lumbar pain. Again, the eruption of Small-Pox is hard and shotty. The general symptoms of Small-Pox subside on the appearance of the eruption, whereas the fever sets in about this time in Measles. The Diagnosis should be made early, so as to isolate the children and save the others if possible, because, though they may have it afterwards, it is not more severe. This is different in the case of Scarlet Fever.

Treatment. Order strict rest in bed and in a darkened room. Give very little food, and let it be of the lightest kind. A little Paregoric and Nitre in gum-water is all that is needed. The child does not suffer from going without food. Forcing food will cause vomiting. There are some Complications which call for special treatment. *Severe Laryngitis* requires Atomization with Lime water or Muriatic Acid and Boracic Acid. Small doses of Calomel may be given internally and Bi-Carbonate of Soda and Opium by the mouth or Rectum. *Bronchitis* calls for a wadded jacket and internal treatment, such as Carbonate of Ammonium and Quinine. The accumulation of secretion may demand relaxing emetics. This is rare. Give dilute doses of Hydrocyanic Acid, Chloroform, Nitrate of Silver, and Injections of Opium per rectum.

The **Hemorrhagic** type calls for Turpentine and Mineral Acids.

During convalescence we must maintain watchful care, on account of the numerous sequels.

"**Rotheln**" has been called "Measles without Catarrh," "German" and "French" Measles. It stands midway between Scarlet Fever and Measles. Lately it has been more commonly recognized. We should always be on the look out for it. *It is a contagious and infectious acute specific febrile disease, attended with a characteristic rash on the second, or even the first day, without lesions of the solids.* There are no complications or sequels, and but little mortality. It is Epidemic. It is as highly contagious as Measles. It does not protect against Measles or Scarlet Fever, nor do they protect against it. It does protect against itself.

Symptoms. We have the stage of **Incubation** without symptoms, lasting from five to ten days, generally five. Then the stage of Invasion, marked by sudden fever of moderate height, 101° F.–102° F. Rarely are there any Nervous Symptoms. The child complains of sore throat and tenderness at the angles of the jaw. The symptoms are not as pronounced as in Scarlet Fever. Sometimes we have a cold and redness of the eyes. These are not as marked as in Measles, but nevertheless we have Bronchial and Faucial affections. The **Eruption** comes on the second day, and consists of slightly elevated, rather flat papules appearing first on the arms, but with this Eruption, which is discrete, we often find associated a red blush. The papules of Rotheln may run into a rash or subside when the rash appears. It is difficult at this stage to tell it from Scarlet Fever. But if seen early it can easily be distinguished. It has not the dark punctate appearance of Scarlet Fever. **Digestive** symptoms are not very marked. The Tongue is coated slightly. The urine is febrile, but rarely contains albumin. The duration is from five to seven days. The Fever then rapidly declines. The eruption fades. Usually there is no desquamation, but there may be some branny desquamation. Convalescence is rapid. There are but few Complications. Rarely do we have Capillary Bronchitis or Pneumonia. The kidneys do not suffer. There is no fear of Nephritis as a sequel. We have here a mild form of disease.

Relieve the pain with opium
Prevent effusion with counter irritation along
spine & local depletion along spine &
giving ergot freely with Potass Iodid
Turpentine instead of ergot if there is
a typhoid state
Preserve life with alcohol. Diffusible stimulants
Liquid food in free quantities
Convalescence requires great care
Give Potass Iodid for the sequelae for
a long time

Chicken Pox or Varicella, an acute specific infectious disease with an eruption of a vesicular character with no severe constitutional conditions. It has nothing to do with smallpox & is a disease of childhood one attack protecting against another. Cause unknown. It is contagious

Symptoms Incubation 7 to 10 days. No prodromes. Invasion very slight. Disease detected by recognizing the eruption, there may be a little sickness & slight fever, but generally the child is bright & cheerful all during the course of disease.

the eruption is round erythematous with vesicles, filled with serum with red bases.

they are apt to form on the face too

the vesicles appear in a few hours after the eruption comes out

Treatment · Keep child in bed 5 or 6 days.

Restrict diet slightly. No medicine is needed

Soften spots with Zinci oxide &c

Whooping Cough or Pertussis

- a highly infectious disease, no fever, running its course in about 2 months marked by a stage of bronchial cough, by a stage of paroxysmal cough, & by a stage of decline

It is a disease of childhood & the poison is transmitted thro' the air & can be carried by fomites.

It protects against a 2nd attack, but 2nd attacks may occur

Sympathetic attacks may occur in mother nursing children having it.

The poison is in the respiratory tract & the blood does not suffer [illegible]

Stage of Incubation is 7 to 10 days - & then comes the stage of Bronchial Cough - no fever or very slight - a few rales but not in proportion to the cough.

Cough comes in irregular spells & is hard & dry.

These spells increase in frequency & severity & do not yield to treatment, then the cough grows spasmodic, [illegible] [illegible] [illegible] [illegible] with [illegible] at end of the cough & then the child [illegible] to [illegible]. This stage [illegible] [illegible] & in time is about 2 or 3 weeks

The whooping is a long loud inspiration which follows the cough which [illegible] the [illegible] of air. The 2nd stage dates from the beginning of the whooping. [illegible] [illegible] [illegible] [illegible] or Kinks which [illegible] [illegible] [illegible] & severity. Blood may stream from the nostrils after the [illegible]. Convulsions sometimes occur. During this 2nd stage the physical signs [illegible], there may only be a few rales or [illegible]

The **Prognosis** is good. Death is rarer than in measles, yet it has occurred from Pulmonary Complication.

The **Diagnosis** is very important. We are liable to confound it with *Scarlet Fever*, but the invasion is less abrupt. So is the rise of Temperature and rapidity of the Pulse. We have an absence of Throat and Nervous Symptoms. Again the rash is different. The milder course, absence of renal complications and desquamation would show us the difference. *Measles* can easily be distinguished. There we have three days' invasion with very marked Catarrhal trouble, and the eruption does not appear till the close of the third day. In Rotheln the eruption is not later than twenty-four hours. The eruption at first is discrete, and not until later does it blend into a uniform rash. Of course, in certain border cases there will always be mistakes.

Treatment. There are no special indications. Enjoin rest. Sedative febribuges and light diet are all that is needed.

Chicken-Pox *is a contagious, specific, febrile disease of very slight gravity and with a characteristic vesicular eruption, running a very short course and always ending in recovery.* It is distinctly contagious. It is not epidemic or infectious. It has an individual character of its own. We do not know its cause. It protects against itself only. It is a child's disease. Those who escape it in childhood never get it afterwards.

Symptoms. Very many children do not seem sick at all. The child plays about while the eruption is out. We may have scarcely any premonitory symptoms but fever and the Eruption, impairment of appetite, restlessness and irritability of temper. **Eruption.** We first have Papules, which soon become Vesicles. These are distended and translucent. They occur on any part of the body. They break, and the cuticle dries into white scales. In others the Vesicle is converted into a scab, which soon drops off. There is no redness at the base and no Pitting or deformity follows. The symptoms last from twenty-four to seventy-two hours.

The **Prognosis** is always good. The child soon recovers and is all right again.

The **Diagnosis** is easy. The mildness of the symptoms and prompt passage of the Eruption into the Vesicular form distinguish it from everything else.

Treatment. Confine the child to its bed, or at least to its bed-room. Give it restricted diet and keep it out of draughts. We never have a second attack.

Whooping Cough, *or Pertussis, is a contagious, specific disease, characterized by a peculiar irritation of the respiratory Mucous Membrane and a Cough terminating in a Whooping sound.* We call it "whooping" from the sound in which the paroxysm terminates. It is very contagious. It attacks persons of all ages. The *fœtus in utero* may have it. A child may have it forty-eight hours after birth, or persons of eighty may have it. One attack protects against another, yet one in contact with children with it, constantly, will get a paroxysmal bronchial cough like it, even though previously protected.

Symptoms. There is a Period of **Incubation** of about one or two weeks before the symptoms develop. The general symptoms are very slight. There is very little fever or none at all. If fever does occur it occurs connected with, dependent upon, and proportional to the Bronchial Inflammation rather than to any specific lesion. The disease seems to spend itself on the mucous membrane. The spirits, appetite, etc., are not impaired. But

we may have complications and impaired nutrition. We look for the characteristic symptoms solely in the Bronchial Membranes. We have an irritability of the Fauces and Nasal Mucous Membrane and Bronchial Rales. This is the **first stage.** This lasts three or four weeks. During this time there are no Paroxysms, and the whooping has not begun. Then succeed Paroxysmal Coughings following each other. It seems as if the Lungs were emptied and then filled by a long whooping inspiration. They vary in frequency from one in twenty-four hours to one every minute. The child knows when a Kink is coming, grasps a chair, turns red in the face, and grows livid. Vomiting often occurs from succussion of the Diaphragm. Blood may spurt from the nose. The child seems and really is in danger. The breathing gradually returns. There is a secretion of glairy mucus which is raised from the Larynx. Attacks may be very mild or very severe. We may have either Conjunctival or Cerebral Hemorrhage. The child may go into Convulsions or may die from Apnœa. The **Paroxysmal Stage** lasts about four weeks. During this time there are Rales out of proportion to the Bronchitis or there may be a great deal of Bronchitis, and we may fear Capillary Bronchitis, Collapse of the Lungs, or Catarrhal Pneumonia. The general health is impaired.

Stage of Decline. The paroxysms grow less frequent. The "Whoop" stops. Six weeks are required for Convalescence. The entire duration is thus not less than nine weeks, or the child may whoop on the second week and then stop. The Paroxysms may be so severe that we may be obliged to have recourse to artificial Respiration in order to resuscitate it.

The **Diagnosis** is important, but not always easy. We cannot decide until the "whoop" appear; yet, if there has been a known exposure, it would help us much, and if it is the season of the year and the child has not been imprudent so as to catch an ordinary cold, and if the Cough causes Vomiting, it would be very suspicious. We can only give a probable opinion. Of course, as soon as the Kink appears, all difficulty disappears. The only thing with which we can confound it is Inflammation of the Bronchial glands, irritating the sensitive filaments of the Laryngeal Nerves. This causes a harsh Cough with a Kink which may run into Miliary Tuberculosis. This is very rare. It is only when the Cough has lasted a very long time that we can say it is a Laryngeal affection, arising from Bronchial irritation.

The **Prognosis** depends on the Complications and on the season of the year. Diffused Bronchitis, Capillary Bronchitis, Catarrhal Pneumonia, and Convulsions make it more anxious. If a child has a Scrofulous or Tuberculous Diathesis, this fact will aggravate the danger.

Treatment. We have—1. A Specific Catarrh of the Larynx; and 2. Nervous Symptoms. Hence we embrace these elements in the treatment. If the season is favorable and there is no serious complication, moderate outdoor exposure may be allowed. This, of course, depends on the weather. Removal to the seashore or country is valuable. Breathing Atmospheres charged with coal gas, etc., is often resorted to. Impressions that act on the nervous system act also on the spasm. Very absurd means to frighten away the spasm have been resorted to. General influences of Hygiene and Dietetic measures we find are all that are required. Drugs—Bromides and Belladonna. Combine as much Atropia or Belladonna as will produce a direct but mild action. Where there is much glairy mucus add Alum to the above in large doses. It is often very useful. Sometimes, for Bronchitis, we must use the Ammonia salts with Expectorants. Also counter-irritation along the spine and to the chest. Iodine, Liniments, etc. Oil of Amber is thought preferable to other local applications, but it has no particular

may be many. Lung as acute Catarrhal Pneumonia or Capillary bronchitis. This 2nd stage lasts about 4 weeks. Then comes the period of decline which lasts about 4 weeks. Here you have an ordinary bronchial cough.

- the constitutional symptoms may be slight - with very little fever.
If there is much bronchial catarrh the fever is higher.
There is loss of flesh, anaemia &c.
- the complications are chiefly pulmonary & nervous

Prognosis - good

Treatment - Largely hygienic - no drug to control it.
If the weather is dry child may be out of doors.
If there is much bronchial catarrh, restrict child to house & to bed.
Give Bromides with Belladonna
may
℞ Ammon Brom
Potass Brom āā gr C.
Ext Belladonna gr 1/100 to gr ii
Glycerine
Aqua ad ℥ VI.
Sig - ʒi every 3 or 4 hrs -
other antispasmodics may be used
Antipyrine may do some good in some bad cases.
Emb. [illegible] oil of amber &c.
For violent paroxysms - inhale a mixture of Amyl Nitrite & Sulphuric ether
Keep up the strength with tonics & stimulants

advantage. Try Ether spray to the Cervical and Dorsal enlargements of the spine in debilitated and exhausted states of the system. Quinia and Alcohol are not incompatible with Bromides and Belladonna. We may apply Nitrate of Silver, Iodoform, saturated solutions of Quinia to the Larynx and Nasal passages. Use them only where there is marked local irritation. When the Paroxysm is very bad we may give inhalations of Ether and Chloroform. Nitrite of Amyl has been used where the lividity is intense after a paroxysm. We may mix the Nitrite with Ether, one part to nine of Ether. This is waved in front of the child's nose just as a paroxysm begins. It acts very promptly. After Whooping Cough is over the child is liable to pulmonary lesions. Here we must watch him carefully. The amount of Bromides borne is very large.

Influenza *is a Specific, Contagious, and Epidemic Catarrhal Fever, characterized by extreme prostration and nervous disturbances.* It depends on some poison or specific change in the atmosphere. It at times is absent, then again, attacks a whole community. It may be compared with the Epizootic diseases of the lower animals. It may occur, simultaneously, in different places. It is a type of an Epidemic Disease. We have great differences in different individuals. It is hard to prove it contagious. Persons in the same house with a patient are more liable than those next door. There are no lesions of the solids. Death never occurs; hence, we do not know its Morbid Anatomy.

Symptoms. We have quick onset attended with Rigor, slight **fever** of 101° F. to 103° F. Nerve **Pains** in the head, back, and legs. Great feeling of **Debility** and Languor and **Injection** of the eyes. Sneezing and Coryza. **Hoarseness** and hard dry Cough and scattered Rales. In other words, it is a very severe feverish cold with unusual severity of nerve pains. It differs, however, in the very great feeling of weakness and in the predominance of nerve pains. In some, the Neuralgic pains are excessive. They may be Cranial, Spinal, Spinal and Intercostal, or diffused through the limbs, and so severe as to imitate local disease. You may fear Meningitis, or the pains in the limbs may simulate Rheumatic Fever, and in both of these there may be no Catarrh. Here the Nervous symptoms obscure the Catarrh. Again, we may have a hard Laryngeal Cough and Aphonia, and we expect Croup. There may be very little Bronchial Irritation. We may fear Capillary Bronchitis from the disease locating itself on the Pulmonary Nerves. Again, it may catch hold of the Stomach and Bowels, the Catarrh only establishing itself on the Gastro-intestinal tract. It does not protect against itself. It may be over in seven days or linger for two or three weeks. Previous Debility predisposes to it, but it will attack the strongest. There is a great tendency to Relapse. The Symptoms redevelop in a more serious form. It is the most variable disease.

Prognosis. It is very rarely followed by death except in very old or very young persons and when Catarrhal Pneumonia complicates it.

Diagnosis is very important. The very fact that you cannot find any definite local symptoms to account for the patient's prostration and abject condition should suggest Influenza. The disproportion of the actual condition to the symptoms puts us on our guard.

Treatment. Absolute rest and careful protection, as complications are severe. After the subsidence of the symptoms, if there is any Rise of Fever, keep the patient confined to bed. Relieve the Pain, Restlessness, and Insomnia, treat the Catarrhal Inflammation and oppose Nervous Debility. Give Opiates and give Morphia hypodermically. Opiates act kindly and should be given in small repeated doses. Only give Morphia where pain is

very excessive, avoid it where Rectal and Intestinal Opiates are enough. Bromides and Opiates are to be combined where there is great nervous restlessness at night. Aconite should be given freely, gtt. i every hour for eight or twelve hours. Where you can do so without producing head trouble give Quinine, or join Hydrobromic Acid with it when it induces buzzing in the ears. Dissolve gr. ii of Quinine in gtt. xii or xv of Hydrobromic Acid. For Catarrh, steam the Throat with Lime-water, weak solutions of Ammonia and Boracic Acid. If the Catarrh is very severe combine Carbonate of Ammonia because it is a nerve stimulant, stimulating expectoration. In Convalescence use Strychnia and alcoholic stimulants. Nothing does so much good as the physician assuring the patient of the harmless nature of the Influenza.

MALARIAL DISEASES.

Malaria is an Italian word for "Bad Air," and is synonymous with "Miasm." It is now restricted to Marsh Emanations. We associate necessarily the thought of decomposing vegetable matter, so that the air is tainted with it. We should not apply the term in a loose way. What the poison consists of we are in ignorance. The evidence points to a Micro-Organism which demands continued heat, abundant moisture, and decomposing vegetable matter. This forms a suitable Nidus. Malaria has certain laws. We know in what sorts of places it breeds. Hence by drainage it can be rooted out. It has certain Seasons, as Spring and Autumn, when there is dampness. It rises with a fog. It follows water-courses. The exact way in which it travels is unknown. It will sally forth from a Marsh and follow a channel for miles. It will remain for years, then retire and never be seen again. It has been three times up the Schuylkill. It is going up the Connecticut River at the present time. It has been up the West Bank of the Hudson. It is carried as long as there is no barrier. A mountain or wall will form a barrier. Drainage is the cure for Malaria. The Eucalyptus tree has marvellous sustaining powers for Malaria. The effects of Malaria are principally on the blood. The albuminoid part of the corpuscles escapes, but the pigmentary part cannot, and is deposited in the finer capillaries. Connected with the deposit of this irritating Pigment in the capillaries of the nervous system we have Neuralgia. The Spleen is enlarged, the Pulp is hypertrophied. It may be double or treble its normal size. We call it "Ague Cake." The Liver also suffers. It is enlarged and congested and marked with pigment. It is bronze colored and the Bile is dark. Malaria produces functional disturbances. The Nervous System is influenced. We distinguish between its permanent effects and temporary symptoms. Its Febrile action is unique. It is periodic, *i. e.*, comes and goes at fixed periods. A paroxysm comes on with a chill. We have three stages: 1. The chill. 2. Hot and sweating stage. 3. Breaking up by Crisis. Between the Paroxysms the condition of the patient varies. In some forms he is without fever, and we speak of it as *Intermittent.* In other cases we have a moderate fever all the time, and at fixed periods we have exacerbations, This we call *Remittent.* We divide Intermittent according to the intervals between the paroxysms. If it occurs every day it is Quotidien. If every third day it is Tertian. If it skips two days it is Quartan. Sometimes we have two on one day, this is Double Quotidien or Double Tertian as the case may be. These Paroxysms may come at one the first day, at two the second day, and at three o'clock the third day; then we say it "*postpones.*" If it comes at eleven, then at ten, then at nine, we call it "*anticipating.*" A tendency to periodicity is stamped on the clinical history of Malaria.

Ordinary Intermittent Fever. The **Chill** generally comes between nine and two in the day. There are no prodromes. We have Chattering of the Teeth, Faintness, Weakness, Coldness. A desire to lie down and to cover up. To get near a fire and to be warm. This lasts half an hour or a longer period. Then comes the **hot stage,** with fever, high pulse. The eye brightens. The face flushes and the breathing is rapid. The breath is hot. There are pains in the back and limbs. The Temperature rises rapidly—may be 103° F., 104° F., or 105° F. If we take the Central Temperature it may be high even during the cold stage, though the extremities are cold. The Hot Stage lasts from one to six hours. Then comes a sense of relief. The skin is less hot. Moisture appears on the Forehead. This becomes a profuse sweat. The Temperature and Pulse become normal, or even sub-normal. The **Sweating Stage** lasts from one to four hours. The sweat cools off and the patient feels relieved, but languid and listless. These Paroxysms may vary in every particular. They vary in the day and hour of return. Usually the Chill is in the morning, but it may "Anticipate," or "Postpone." Still, from nine to two is the usual time. Sometimes a Paroxysm is all over in one hour. Sometimes only one side of a person may be affected. This shows that the Paroxysm has a nervous origin. The Paroxysm may be very severe and last ten, twelve, fifteen or eighteen hours, and be attended with Bilious Symptoms, Vomiting, Coated tongue, etc. This tends to make it a Remittent. Again, we may have a **Congestive type.** The patient sinks in the cold stage—may pass into Collapse. Coma and death occur without relief. Patients in the Tropics have been stricken down in an hour. This congestive tendency does not show itself in the first paroxysm. In the fourth the patient loses the power of Reaction.

Remittent. Here we have a continued fever, which, if let alone, may last indefinitely, or may terminate in twelve or fourteen days. It may be marked by Diurnal, Tertian, or Quartan rises. Hence, we have the same terms as before. The continued Fever will be about 101° F. There are besides, more marked General Symptoms. There is constant acceleration of the Pulse, yet, the Pulse is not so rapid as the fever would indicate. **Temperature** may be 103° F., yet, the Pulse only 80 per minute; and in protracted cases the Pulse may be below Normal. **Nervous Symptoms** are rarely marked; there may be some Delirium.

Gastro-intestinal Symptoms are more pronounced. The Tongue is indented round the teeth. It is flabby and has a heavy white coat. It is not hard, brown, and sordid, as in Typhoid Fever. **Vomiting** is easily produced, **Appetite** is lost, and the Gastric and Hepatic regions are tender. Movements are offensive and the Bowels sluggish. The **Spleen** is enlarged. The **Urine** is extremely concentrated and high colored. There may be **Nephritis,** Albumen, and Tube Casts. Some cases are much milder than this, but in the Tropics and where Malaria is intense, we find **Bilious Remittent Fever.** We have an excessive prominence of Gastro-hepatic Symptoms, an unusually heavy yellow coating of the tongue, Swelling and Tenderness of the Liver, Vomiting, etc. We may have a Congestive or pernicious type in Remittent Fever. Finally, we may have **Hemorrhagic Remittent Fever** or Intermittent Fever. It may not exhibit a Hemorrhagic tendency on the first and second paroxysms. But on the fourth, we find in the Urine an enormous amount of Hæmaglobin. It may be a special type of either Remittent or Intermittent Fever, or may occur, periodically, without any fever in persons with Chronic Malaria. There may be hemorrhage from the Nose or other Mucous Membranes, but there are no eruptions.

Diagnosis. Consider—1. Season. 2. The Locality; and 3. Exposure. Yet we must first exclude all local lesions. We may overlook some local lesion which is causing irregular symptomatic fever. Malarial Fever and Malaria are terms in every one's mouth as explaining any and everything; and we are apt to salve over our neglect by saying it is "Malarial," etc. This is very dangerous, if there is local lesion in any organ, *e. g.*, Catarrhal Nephritis, Catarrhal Pneumonia, etc. Even where there is a local lesion, quinine will break down the fever and the patient feel better. Yet if we use the thermometer we will see that the fever is not entirely gone. Hence the therapeutic test of Quinine must be relied upon when proved by the thermometer. Remember that Catarrhal Pneumonia, Catarrhal Nephritis, etc., may occur in a man who already has Malaria.

Diagnosis of Remittent Fever. I. In the early stage we cannot distinguish it from **Typhoid.** We have a Malarial type of Typhoid. There are, however, Prodromes in Typhoid. The pulse is more rapid, the debility is greater and Nervous Symptoms are worse. Nose Bleed is more common. The Belly is more enlarged. The Spleen not so swollen. The Liver is notably swollen. There are eruptions on the seventh day. The course of the disease runs from twenty-one to thirty days, and is uninfluenced by Quinine, while Remittent Fever is aborted right away by Quinine. II. We have to distinguish between Bilious Remittent Fever and **Acute Yellow Atrophy.** Study the History of the case. There is less Bilious vomiting in Atrophy. Notice the character of the vomit. 1. Contrast the irregular course of fever in Acute Atrophy with its regular course in Remittent. 2. The greater gravity and nervous symptoms in acute Yellow Atrophy *vs.* the amenability to Quinine of Bilious Fever. 3. The greater frequency of Albuminuria and Tube Casts in Yellow Atrophy; and 4. The presence of Leucin and Tyrosin.

III. **Yellow Fever.** The Habitat of this latter is very limited, Malaria ensues anywhere. The onset of Yellow Fever is very severe. The course of the fever is different. We have a Febrile stage of great violence followed by a prolonged Remission, which ends in Collapse or Recovery. In Remittent, we have a series of Remissions at fixed intervals. Jaundice is more decided in Yellow Fever. The Complexion of Bilious Remittent Fever is muddy, but there is not true Jaundice. Black vomit is absent in Bilious Fever. The Urine in Yellow Fever is loaded with Urates and Tube Casts. The urine of Bilious Fever is Yellow and may contain some urates. The Liver in Yellow Fever is very soft and undergoes Degeneration. In Bilious Fever it is very large. Quinine has no action in Yellow Fever. Fatality is very great in Yellow Fever. In Malarial Fever it is not.

The **Prognosis** varies. In Temperate Zones it is good. Even in the Tropics the disease can be cured. But the Congestive Type is fatal.

TREATMENT OF MALARIAL FEVER.

I. **Intermittent.** There is ample time between the attacks to use Quinine. Give gr. xx to xxx of Sulphate of Quinia. Develop full Cinchonism two hours before the attack is expected. Give your doses in intervals, gr. v at six, eight, ten; or, small doses every hour, or give two large doses. Let the last dose be two or three hours before the attack. Give it by the mouth in Capsules. If Children cannot take it in capsules, disguise the taste with Chocolate Tablets. Children eat this readily. Put a couple of grains in each Tablet or give it in Coffee and Syrup of Liquorice or Syrup of Yerbis

Diagnosis of Intermittent & Remittent Fever

If intermittent fever is easy coming on with chills &c
Continued fevers do not begin so abruptly
Diagnose from Phthisis in which the fever is often intermittent by the condition of the lungs.
Examine the blood in malarial fever
Remittent fever is continued fever with marked exacerbations at irregular intervals
from Typhoid where the invasion is not so abrupt & the fluctuations of fever are more regular & the abdominal symptoms are not so marked
The spleen enlarges to a greater extent & earlier in remittent than typhoid & remittent is more influenced by quinine than typhoid is
Typhoid fever may present a malarial complication

Prognosis - good if quinine is given

Treatment of Malarial Fevers
I arrest the fever
II relieve local lesions
III restore blood to its normal

To arrest fever or paroxysms use external heat, hypodermic of morphia & atrophia; internal use of chloroform with antipyrin or antifebrin
During sweating stage give warm drinks & diffusible stimulants
To prevent return of Paroxysms Give quinine or cinchonidine according to how stomach will receive them
20 grs of quinine given about every 3 hrs before a paroxysm comes on to stop it. 1/3 more if given by rectum. 1/2 as much subcutaneous.
Pills are unreliable - use it in a solution of licorice chocolate &c to conceal its taste
Give it with a phosphoric acid
When bilious symptoms are present treat them with Calomel & Dover's powder in small doses with washing of mouth with Pot. chlorate and [illegible] before food is taken
Restore the blood to its normal by the prolonged use

of Iron and Arsenic

Malaria manifests itself in fever, anaemia, neuralgia + lesions of the liver

Malarial Neuralgia is somewhat common the nerves affected are various. any nerve may be affected. it is usually unilateral and is paroxysmal. It yields to malarial treatment

Malarial Enlargement of the Spleen is constant in malaria. it size being sometimes enormous Diagnosis from cancer by no pain history and its uniformity

the leucaemic Spleen is harder than the malarial one

Treatment not satisfactory as it remains after the malarial poison is removed. May give Iodides or Mercury.

anti. Bear in mind the irritability of Quinia and give it by rectum in an enema or a suppository with an Acid and Cocoa Butter. We may use it hypodermically. Rectal administration requires twice as much as when given by the mouth. Quinine hypodermically is twice as powerful as by the mouth, and four times as powerful as by the Rectum. Yet abscesses result even when Quinine is mixed with Tartaric Acid and given hypodermically. Hence reserve its hypodermic use as a last resort.

Scheme for administration of Quinine:—If we have a case which is Quotidian, give gr. xvi daily for three days, gr. xii daily for two days, gr. viii daily for two days, then gr. x for one day, then gr. viii daily for three days more. In a case of Tertian give gr. xvi the first day, then gr. xii, then gr. xvi, then gr. viii, then gr. xii. Follow up with Arsenic and Iron. Give a prolonged Course of Arsenic in gradually ascending doses till the Liver and Spleen are restored to their normal condition. When there is fear of the disease being a bad one, throw in large amounts of Quinia, 50 or 60 grains per day may have to be given.

Intermittent Fever. Here, besides a Malarial element, we have gastric and hepatic congestion. While we give Quinine from the very first we must keep the patient at rest and on strict diet. We use Nitric and Nitro-Muriatic Acids diluted in full doses, also Creasote and Bismuth. If the stomach is irritable and the bowels costive, give minute doses of Calomel. If the fever is very high use a febrifuge, as Aconite, Acetate of Ammonium. The prominence of this other treatment depends on the gastro-hepatic trouble. Malaria further produces Cachexia, Neuralgia, and Enlargement of the Spleen. The treatment of these is more important than the mere breaking of the attack.

Cachexia. We have an excessive Anæmia with muddiness of the complexion, we find a pallor as well. The Anæmia may be intense. There are few blood corpuscles. We have extreme debility, apathy, and change of temper. Œdema may come in the ankles and spread over the body. General Anasarca may ensue. The Heart is weak and the Pulse slow. We find fewer red Corpuscles and more white. Black pigment granules are deposited in the tissues. This Anæmia yields very readily to Quinine, Iron and Arsenic, good diet, careful hygiene, and change of Climate.

Malarial Neuralgia attacks principally the Trifacial Nerve, the Intercostals, and the Sciatic. Periodicity is a characteristic of this form of Neuralgia. It occurs at the same hour, after the same interval, etc. We generally find a history of Malaria. The Supra Orbital, Infra Maxiliary, and Sciatica are tender at their emergencies from their foramina. This neuralgia is very obstinate. It may resist Quinine and require Arsenic pushed to its utmost. If there is conjoined Anæmia, use Iron, Arsenic, and Mineral Acids.

The **Spleen** may reach thirteen or fourteen pounds in weight. We diagnose the Malarial Spleen by the following points:—1. The Lymphatics are not affected as in Leucæmia. 2. While there is Anæmia and the red discs are diminished the white corpuscles are not increased in number. 3. There is no history of Scrofula or Syphilis. 4. No albuminuria. 5. No hemorrhages; and 6. No history of enlarged white Liver. Yet we are often in doubt whether enlarged Spleen is from Malaria or Amyloid Degeneration. We must watch the case carefully.

Treatment of Spleen. Eradicate the Malarial taint. Employ Blue Mass in moderate doses, followed by a Saline Purgative. Remove the patient from the affected district; order a diet of fruit, green vegetables, milk, but no meat. Use electricity passed through the Hypochondriac zone. Give Ergot in full doses. Keep up the use of Arsenic and Iron.

Mumps *is a specific contagious febrile disease, characterized by inflammation of the Parotid Glands.* It occurs but once in an individual. Common inflammation of the Parotid we call Parotiditis, *e. g.*, where this occurs from Cold. The Parotids are secondarily enlarged in Typhus, Typhoid, Relapsing Fever, etc. It is a disease of childhood, yet it may occur at any period of life. A second attack of Mumps has been known to take place.

Anatomical Characters. Usually one gland is first involved, and then the other in a few days. They are enlarged, congested and infiltrated. Suppuration is very rare in true Mumps. It is very common in Secondary Parotiditis.

The **Symptoms** are very slight. There are scarcely any Prodromes. We have **Pain** at the angle of the jaw, which is increased by pressure or by an attempt to swallow. **Swelling of the Parotid** may be so great that the patient is not recognizable. **Fever**, which is usually moderate, 101° F., 102° F. The case lasts seven to nine days, and terminates in speedy recovery. Sometimes parents do not send for a physician at all. However, we may have a transference of the Inflammation to the Testicle or Ovary. Sometimes Sterility results from the Orchitis, and Atrophy of the Testicle has appeared to follow. Hyperpyrexia may be a complication. The Temperature runs up very high, and the same symptoms follow as in other diseases with Delirium, Coma, etc. Sometimes we meet with Mumps in the Sub-Lingual Gland. This, however, is an irregularity.

Diagnosis. There should be no difficulty. We may at first overlook Diphtheria and think it is Mumps, but such a mistake could only occur from not examining the Fauces. The fauces in Mumps is normal.

The **Prognosis** is good.

Treatment. Insist on discipline in the sick room, and strict rest in bed. Give light diet, cooling drinks, and make sedative applications. We may try Jaborandi. Where transference to the Testicle occurs treat the Orchitis. Do not try to bring back Parotiditis from the Testicle by irritation. This does no good. The Hyperpyrexia should be treated with the usual febrifuges, by Quinine in colossal doses, sponging with cold water, etc.

Diphtheria *is an acute specific contagious disease due to an unknown cause, characterized by a Pseudo-Membranous exudation covering the Fauces, with swelling of the Glands, and with marked Debility.* It differs from other specific diseases in the fact that one attack seems rather to predispose to other attacks.

Causes. It is a constitutional disease. We do not know the exact poison. There is some connection with filth and stale Sewer Gas.

Classification. We divide it into six forms. 1. The mild. 2. The grave. 3. The malignant. 4. The nasal. 5. The primary Laryngeal; and 6. The cutaneous form. Of these, three depend on the localization of the Poison, and three on the gravity of the case.

Mild Form. We have a stage of **Incubation.** Its length is unknown. It may last from a few hours to many weeks. The stage of **Invasion** begins with **sore throat, pain** in swallowing, and **fever.** Previous to this we have a short period of premonitory symptoms. The patient is listless, pale, depressed, with poor appetite. The **Fauces** are red and the **Tonsils** swollen. At our first visit we may find a bit of false membrane. The soreness may subside after a few days but the pain continues and is associated with difficulty in swallowing. The local appearances grow worse. On the reddened membrane we have a yellowish white **buckskin-like membrane**

Mumps - A specific infectious febrile disease occurring in childhood with enlargement of parotid glands. Course of 10 days & ending in resolution. Is contagious & gained 2nd attack

Anatomical Condition of Parotid - congestion, edema, & swelling of glandular elements. It does not go on to suppuration

Symptoms - Incubation 1 week - Invasion with very little fever. Pain & swelling at angle of jaw with some fever. Constitutional symptoms soon slight. The local conditions are marked. The swelling is slightly red & tender to pain & slightly metastasis to testicles or ovaries. This may be accompanied with hyperpyrexia & brain symptoms. This metastasis is more common in adults than in children

Treatment - Rest & careful nursing.

Keep the temperature even day & night

Give some local sedative application as chloroform, aconite, cocaine, warmth &c

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Diphtheria

appearing on the soft palate, posterior wall of the pharynx, the uvula, and fauces. The **Glands** at the under corner of the jaw swell and are tender to the touch. Meanwhile constitutional symptoms have been developing. The **fever** reaches 102° F. to 103° F. The **surface** is pale. The **pulse** frequent, soft, and weak. **Thirst** may be marked. The **Tongue** is coated. The **appetite** lost. By the tenth or twelfth day the membrane disappears. The constitutional symptoms subside and convalescence begins. The above represents an ordinary case. Sometimes it is so mild that the child plays about as usual.

Grave Form. This gravity shows itself in the Tonsils being very much swollen. When we look into the fauces they seem covered with buckskin. The entrance of the poison into the system shows the gravity of the case. Some persons' lymphatics will not take up the poison. Their throat may look very alarming, but the glands are not involved. The evidence of blood poisoning is conclusive, yet we have a Secondary Blood poisoning which is worse than the primary lesions, and governs the gravity of the case. Blood poisoning may kill in twenty-four hours. This, however, is rare. We generally have enlargement of the Cervical glands. Swallowing becomes impossible. Sometimes the false membranes extend into the nares and excoriating serum burns the upper lip. Symptoms of **Debility** may set in early. Occasional **Vomiting** is not rare. **Diarrhœa** is a very bad symptom. Saturation of the system shows itself by the appearance of **Albumin** in the Urine. In mild cases it is often absent, but when there is much saturation it may come on the second day. Sometimes we also find **Tube casts.** Such cases often terminate in exhaustion after six, eight, or nine days, or by complete obstruction to swallowing.

The **Malignant** Form is as fatal as Variola Nigra. It is characterized by early and intense **blood poisoning.** The **Fever** may be high in the rectum, but the **extremities** are cold and livid; **blotches** appear. The **membrane** is gray, putrid and pulpy from the start. The **glands** swell rapidly. **Nervous Symptoms** of an ataxic type soon follow. **Death** may occur in seventy-two hours. This form is rarer than malignant Scarlet Fever. The ordinary form is the more common.

Nasal Form. Here the membrane appears chiefly and solely in the nasal passages. The **breath** is very fœtid. The **nostrils** stream with an irritating ichorous liquid. The mortality is usually high. A moderate amount of nasal involvement is to be expected. We have solid plugs of membrane, but this is not so grave as the primary involvement of the Nares, because we cannot reach it. It putrifies here and reaches the blood better.

Primary Laryngeal Type. The fauces may have little or no membrane. We have it on the Vocal Cords, and Pseudo Membranous Croup results. There is always danger of Laryngeal involvement, but here the Larynx is primarily involved. The majority of membranous croups are Laryngeal Diphtheria. We must still admit the existence of an idiopathic membranous Laryngitis. If this occurs in the ordinary Pharyngeal Diphtheria, we have the regular symptoms.

Cutaneous Form. A pseudo membrane may form on the knee from a blow, and then the Fauces take it up. We should remember that any Abrasion is likely to be attacked. This is an evidence of the constitutional poison. Such cutaneous cases are grave, and apt to be accompanied by severe constitutional symptoms. There is a tendency for the membrane to spread. It may spread anteriorly and posteriorly from the Fauces. When removed it forms again.

COMPLICATIONS OF DIPHTHERIA.

Albuminuria is peculiar for its very early appearance—on the second or third day. There may be no Tube Casts. It is unattended with Dropsy, and is not so apt to be followed by Bright's disease as it is in Scarlet Fever, but it may be sometimes.

Sudden Death is very common. This may occur at any period, but generally is late. A child who is well suddenly dies from paralysis of the heart, or we have a true fibrinous concretion of the heart. When a heart clot forms it may be the cause of sudden death. We have the symptoms of rapid action, feeble heart sounds, pallor, a small pulse. These symptoms, however, may come from Debility; but when they appear we should be on our guard.

Implication of the Lymphatics is a constant condition in this disease. They are enlarged, acutely inflamed and infiltrated. The skin is stretched and glossy. The mass is immovable. Suppuration, however, is less common than in Scarlet Fever. It subsides by gradual resolution. It is not so apt to involve the Eyes, Ears, or Eustachian Tubes.

Paralysis dependent on inflammation of the nerve sheaths is remarkably common. It is found in the nerves nearest the lesions, *e. g.*, those of the Soft Palate and Half Arches. The child talks in a nasal voice. Closure of the Posterior Nares is imperfect, and the food, if liquid, may bubble through the nose. Next to the Pharyngeal Muscles we have Paralysis of those of accommodation in the eyes. Then of the lower extremities a General Paralysis may result. The muscles of the Heart, Bladder, and of Respiration are rarely affected. **Loco-Motor Ataxia** often results, but there is no impairment of Sensation.

Diagnosis is very important. We may confound Diphtheria with *Herpetic Tonsillitis*, but this is quite different from the mildest Diphtheria. In Diphtheria the Follicles are not involved. It is a mucous membrane disease. The invasion is not as abrupt as in Tonsillitis. The duration, however, is much greater, and Debility is more marked. There is apt to be albuminuria. The appearance of the throat is different. There are more dangerous Sequelæ and Complications in Diphtheria. In *Scarlet fever* marked anginose symptoms and pseudo-membranous exudation do occur, but—1. The onset is more violent. 2. The Fever rises higher, and more rapidly. 3. There is greater acceleration of the Pulse. 4. Even when the attack is anginose the Membrane does not appear as soon as it does in Diphtheria. 5. In Scarlet Fever at the close of the first twenty-four hours we have an eruption. In Diphtheria we have no eruption, except it may be some temporary Erythrema. 6. The membrane does not tend to spread in Scarlet Fever. 7. We have a tendency to Bright's Disease in Scarlet Fever during the Desquamation period, but in Diphtheria it comes on very Early. 8. In Scarlet Fever it is associated with Dropsy, but not so in Diphtheria. 9. Paralysis is rare after Scarlet Fever but common after Diphtheria. 10. Scarlet Fever protects against itself, Diphtheria neither against itself nor against Scarlet Fever.

The **Prognosis** varies greatly. We must remember that the Pseudo Membranous Inflammation is not the whole of Diphtheria. We must judge of the Nature of the Case by taking in the whole System. If *Malignant*, it is very dangerous. If *Grave*, the Prognosis is unfavorable, yet we should not abandon hope. Even in ordinary mild cases the Prognosis cannot be good, because we may have sudden death from heart failure, or from the establishment of Croup.

The **Treatment** may be considered under three heads:—1. The maintenance of the strength. 2. The Disinfection of the Pseudo Membrane. 3. The use of Internal Remedies. We must maintain the strength by absolute rest and careful nursing. All muscular movement should be avoided. The patient should not be allowed to rise to stool, for fear of cardiac Syncope. Give as much nourishment as possible, varying the amount, time and quality as the throat symptoms change. Where swallowing is impossible, give Enemata. The skin may be much benefitted by inunction twice a day. Stimulants are desirable except in the mildest cases. The state of the stomach should guide us. If they are well borne, they are doing good. We are on the safe side by giving them. When the case is very bad, give as much as the patient can take. In general, remember the tendency is to Death from prostration.

Disinfection should be used in every case. Originally, it was strongly recommended. When the doctrine of Zymotic Diseases was taken up, it was denied. The Germ Theory has regained the reputation of Local Treatment. If the child is very much exhausted, the disinfection of the throat may be stopped. We use Iodoform as a saturated Ethereal Solution (gr. c. to f℥i) or Tincture of the Chloride of Iron, with Chlorate of Potash and Nitro-Muriatic Acid, Honey and Glycerine, Flowers of Sulphur and Honey. We must give such things as will not do harm if taken into the stomach. We may also apply Bichloride of Mercury. The system bears it well. The application should be made three times a day. If there is Nasal Involvement, we may use a curved brush. Steam atomizing should be kept up every hour with Boracic Acid, Lime Water, Lime Water and Carbolic Acid, Borax and Carbolic Acid, Borax alone, Carbonate of Ammonium. We want to render the membrane less cohesive. Always allow a child to sleep as long as it will, but if on waking it immediately falls off again, it must be wakened at the regular intervals for the local treatment.

Internal Remedies. Where there is comparative localization of the disease we may order

℞ Potass. Chlorat. gr. xcvi,
Tinct. Ferri Chlorid. gtt. ccl–cccxx,
Acid, Muriatic, Dil. f℥i ss,
Glycerin f℥ ss,
Aquæ q. s. ad. f℥iv,
M. ft. Sign.: f℥i every three hours.

We should not mix in Quinine. It makes the medicine taste worse. If the above purges or in any way interferes with feeding try something else. When the above is not well received and there is a tendency to Glandular Enlargement, then adopt the Mercurial Treatment. Use either powders of Calomel or Bichloride of Mercury. Where there is no tendency to looseness or gastric irritability, and the child does not resist, use the Bichloride. Where the contrary, use Calomel. In both cases give large doses. In no disease are they borne better. To a child of five give gr. $\frac{1}{32}$ Bichloride every two hours, day and night. Of the mild Chloride give gr. v, and if copious purging does not follow, give another dose, and then 2 grains four times, *i. e.*, 28 grains in the twenty-four hours. The only complications deserving special notice is *Paralysis*. Use the strictest hygiene and dietetic measures. Feed the patient carefully. Give stimulants in moderation, also Iron, and full doses of Strychnia. Enjoin plenty of exercise combined with the use of the Electric Current. *Heart failure* requires a Tonic and Stimulating plan of treatment.

Erysipelas *is an acute specific febrile affection, at times epidemic, not contagious, not protecting against itself, and attended with a peculiar inflammation of the skin.* Whether the specific character is to be found purely in the cause, or whether there is something in the person attacked, it is hard to say. Some get it whenever they get a chance; others never seem to take it.

The **Cause** may be a specific state of the atmosphere, or may be something more definite. It is not directly contagious, yet it spreads in a hospital. Still, the patient must be in a certain condition to get it. It disposes to a second and even a third attack. This shows the personal element in it. We divide it into—1. Traumatic or Surgical. 2. Idiopathic or Medical. Surgical Erysipelas attacks the neighborhood of wounds. In its nature it is similar to the Idiopathic. Idiopathic Erysipelas attacks the face with wonderful unanimity. Scarcely ever does it begin any where else.

Symptoms. After a period of incubation of unknown length, but usually short, the patient has a Rigor, Fever and Pain in the Throat. Shortly afterwards an Inflammation begins at one of the apertures of the face. There may have been a little pain before; but generally no Symptoms herald its approach. This Inflammation is peculiar. The affected area spreads. It is red and feels hard. The patient may be unrecognizable. The ears seem as if they would burst. It spreads to the scalp and then down the neck. The above process takes from five to ten days. The inflammation terminates by Resolution and Desquamation. During this time the Fever has been moderate. The Temperature 102°–103° F. It gradually subsides and terminates by Lysis. There is great restlessness, pain, insomnia, febrile thirst, febrile and scanty urine. Throughout the attack the inflammation is ambulant. It may be erratically so, and extend down the trunk. Sometimes it invades the mucous membrane of the mouth, and extends to the Larynx. There is intense swelling of the Fauces. The external inflammations fade, and the symptoms become typhoid. The Tongue is black from injection. This gives rise to the name of Black Tongue. Deglutition and Respiration are impaired. The mortality is 67 per cent.

Phlegmonous Erysipelas may occur. Here we have an infiltration of the Cellular Tissues. We have Sub-Cutaneous Ulcers. First comes Swelling under the orbit, jaw, and on the neck. Then fluctuation, pulsation and suppuration. This protracts the case and increases the danger, symptoms and mortality. It may be associated with Suppurative Nephritis. It assumes a Typhoid form. In the ordinary type nervous symptoms are not prominent, but we may have Stupor and Delirium in highly nervous persons and drunkards. In the latter it may cause Delirium Tremens. Cerebral Symptoms may arise from Kidney troubles, from excessive hyperæmia or congestion, or from the poison spreading from the scalp to the meninges. Mere wandering delirium is not very significant.

The **Diagnosis** is very easy. This elevated, deeply red, infiltrated, painful, hot spot, with a tendency to spread, is not found in any other disease.

The **Prognosis** is good in general. It is dangerous in the old and in very young children. It here spreads over the whole body. Yet after a terrible long period the child may recover. The Phlegmonous form may prove fatal from Exhaustion. With Cerebral complications the prognosis is worse.

The **Treatment** of Erysipelas has become largely routine. Chloride of Iron has a peculiar effect. Whenever the stomach can bear it Tincture of the Chloride of Iron gtt. xxx every two hours should be kept up till the decline. If the stomach won't bear this, give it in smaller doses and add Calomel with it. If the Fever is very marked use Quinia in full doses.

Jaborandi has been recommended and may be used with Iron pushed to the point of diaphoresis. In the *Typhoid* form give Iron, Stimulants, Turpentine, etc. Where the *Kidney* is affected, push the Iron and add Digitalis and Spirits of Nitrous Ether. For *Nervous Symptoms* give the Bromides, and Chloral Hydrate, Opium, etc. The diet must be good. If *abscesses* form open them promptly and treat them aseptically. In the *Black Tongue* form give Calomel in large doses for the first three days. There is no occasion for this in ordinary Erysipelas.

VIII. CONSTITUTIONAL DISEASES.

Rheumatism *is a diathetic disease occurring in an acute and chronic form, attended with a peculiar inflammation of the joints, fibrous and serous tissues, and with constitutional disturbances which are very marked in the acute, but not so prominent in the chronic form.* It is diathetic. A diathesis is a continuance of apparent health, yet with a tendency to certain special forms of disease. A person may appear rugged and healthy, and yet on exertion, get Rheumatism. Some persons never get it. The same exposure would give them, perhaps, Bronchitis, and totally different derangements. The Rheumatic diathesis may be acquired or inherited. We have a disturbance of innervation and assimilation, and an extra amount of Lactic Acid produced. We have also an arthritic diathesis. In studying Gout, Rheumatoid Arthritis, etc., we have a resemblance in the involvement of the joints. The joints of liable persons are vulnerable. With an arthritic tendency in some as a basis, we have a Rheumatic tendency.

I. **Acute Rheumatism** or Rheumatic Fever does not protect against another attack, but rather predisposes to it.

Causes are Anxiety, depression of the system and then Exposure to wetting, draughts, etc.

Symptoms. There may be a **Rigor** after a very short interval after exposure. The **Temperature** rises rapidly to 103 or 104° F. Almost immediately we have **Swelling** of one or more joints. These are usually the large joints. They become tender and cannot bear the slightest touch or movement, not even of the bed clothes. Soon we have rounded Swelling. The joint is slightly red only. It is hotter than the surrounding tissue. It is firm and only pits slightly on pressure. There is not much effusion into the Synovial Membrane. This Inflammation shifts from day to day. The Fever continues without much fluctuation. We do not have daily exacerbations, but marked depressions every other day. Four or five weeks is the natural length of the course, but it has no limit. Even when the fever is very high, the body is bathed in an **acid profuse sweat.** We have high colored, scanty and intensely **acid Urine.** The **Tongue** is coated. The **appetite** impaired. The **bowels** sluggish. Sleep is broken.

Complications. Acute Rheumatism is apt to be complicated by inflammations of the Serous Membranes. Endocarditis and Pericarditis are very common. They have their usual Symptoms and Physical Signs (vide, pages 70–81, Vol. I), with an increase in the pulse rate and high temperature. The heart should be ausculted every day. Hyperpyrexia is another great danger. The temperature of Scarlet Fever is much higher, yet the danger here is greater. Rheumatic Hyperpyrexia occurs in those who are broken down and nervous, and wherever emotion or mental strain has depressed the system. It occurs suddenly, but is generally preceded by a disappearance of

the pain. This should make us suspicious. We may have a premonitory rise in the temperature. With the Endocarditis or Pericarditis we may have Delirium and then Coma, and if the Fever be not soon broken, death may occur in thirty-six hours. It is peculiar that if the hyperpyrexia be broken suddenly we have an improvement in the general symptoms. If there are no complications the disease declines, but is marked by most annoying relapses. It may drag on for months. Even when there is no organic trouble we have anæmia and impaired nutrition.

The **Diagnosis** is very easy, provided the Articular symptoms are very marked, but there may be no articular complications. This is more commonly the case in children, but may be so with adults. Cardiac complications may occur from want of caution. The individual may have the Diathesis but not the Arthritic tendency. The intermuscular septa are affected and the muscles very tender, and we have a great tendency to Myocarditis. We might confound it with epidemic Cerebro Spinal Meningitis or with Typhoid. If we find a high fever, examine the patient for acid sweats, look out for Measles, Typhus and Typhoid; and if the time for their eruptions passes by, we should expect Rheumatism.

The **Prognosis** is good as regards life. Mortality is very small but as regards Duration it is wholly uncertain. We should beware of promising a speedy cure. As regards complication it is anxious.

Treatment. General Principles. We must attend to the bed and body clothing, the air of the room, ventilation, etc., avoiding atmospheric changes. The joints should be moved cautiously. They must not remain unmoved for a long time. As the acute symptoms subside, begin gentle movements. This will obviate stiff joints. Attention to the Bowels is very important. We must not allow Constipation. Give the patient an Enema, adjusting the bed-pan very carefully. The bed clothing should be changed in the most careful manner. As regards **Diet.** Starchy food, meat broths, bread and gruel are well borne. Meat or eggs should not be given except when the system is very weak. Then they should be given in a concentrated form. Milk is not a good diet. Butter-milk strained is better.

Thirst should be relieved by Lemonade with very little sugar in it. Let the patient have water freely, as it dilutes the urine which is otherwise very concentrated.

Pain should be relieved by Opium. If the Fever is considerable and the skin not very moist give Dover's powders, but on account of the Ipecac they may cause too much sweating. Bromide of Ammonium is indicated and may be given with Opium, as it is too weak of itself.

Local Applications. We may rub in an Ointment of Veratria and Aconite with the Protiodide of Mercury.

℞ Hydrarg. Protiodid. ʒi,
Unguent. Verat. ℥i.

Or we may use Chloroform Liniment with Laudanum or Aconite. These will render a smaller amount of Opium necessary. We may also apply small blisters to the joints in succession. At the same time study the posture carefully and use down-pillows.

Special Treatment. The poison seems to be an acid, perhaps Lactic. All the secretions are acid. The remedies we rely on are Alkalies. We use the Salicylate Salts. We may combine Salicylic Acid with Alkaline bases as Soda. It affects the disease in several ways. It seems to be a specific. It reduces the temperature, allays the pain and neutralizes the poison. We give it in doses of gr. x every two or three hours during the day, letting the patient sleep at night. If pushed too far it produces giddiness, fullness of

the head and nausea. ʒi to ʒi½ is a full quantity for one day. It is very soluble, and may be given in water or syrup. Its effect will be evident in three or four days. If after using it for four days there is no effect, it will probably not do any good, and should be stopped, and the patient put upon pure alkaline treatment. Dissolve from ʒii to ℥½ of Bi-Carbonate of Soda or of Potash with ʒii of Acetate of Potash in a pint of water. The amount given should be tested by the state of the Urine. When it is neutral diminish the amount of the Alkalie. If it is alkaline diminish it markedly. Sometimes the above methods will be of no avail. Then there must be some deep-seated assimilative disorder which continues the production of the poison. We should now resort to a Tonic and Alterative Treatment. Substitute small doses of Calomel, guarded with Opium and Digitalis. This may clean off the tongue. We now abandon all attempt to combat the specific poison, and turn to the primary digestion with Quinine, Mineral Acids and Bitters. We must not pursue a routine theoretical treatment. We must remember that we are treating a system. Let the Rheumatism alone, and perhaps it will drop off of itself.

Special Indications. *Tendency to Hyperpyrexia.* If the Fever is very high, bring it down. The Salicylates generally control it very well; but if not, give Antipyrene gr. xv ever two hours until ʒi is given: or gr. xl of Quinia in two doses of gr. xx may bring down the fever; but if this will not do it, and you still find Delirium and a disposition to Stupor and the Fever remains obstinately at 105° F., resort to the external use of water. Delay may mean death. No inflammatory consequences attend its use, and even the Arthritis may disappear.

The *Nervous Centres* are always disturbed. Some even consider it a Nervous Disease. This is not so. The Nervous System does, however, sympathize. Blisters sometimes do good at the epigastrium, nape of the neck and præcordia. A relief of the nervous masses then may produce a change in the disease.

The Heart. The thing that needs most watching is the heart; yet, apart from this, a blister to the præcordia does good. Endocarditis and Pericarditis are easily recognized. Myocarditis is hard to recognize when the circulation is depressed. The person being anæmic and the joints not very much affected, we should suspect it. Blister the præcordia and keep up counter-irritation and raw cotton round the chest. If it is early in the case, we may use the Salicylates, but if late, use Calomel, Opium, and Digitalis, followed by Digitalis and Iodide of Potassium. This treatment should be kept up till the murmurs disappear and the circulation is restored. Rest is absolutely necessary. Keep the patient horizontal until all feverishness, valve sounds, and tenderness are gone.

Debility. There comes a time for Tonics and Iron, Iron and Alkalies as the Bashan's Mixture, or Iron with Extract of Quassia, Nux Vomica, etc. We may combine Iron and Iodine. Our treatment must be kept up a long time, there being great danger of relapses.

Chronic Rheumatism is simply a continuance of the expression of the Diathesis. 1. Sometimes Convalescence is never complete. The Tissues may be permanently weakened. This weakness of the joints has been increased by Inflammation. 2. In some cases it requires a number of acute attacks, and it is not until the patient's system has been broken down, that he gets Chronic Rheumatism. 3. In a third class it is chronic from the very first. It may come on through the operation of atmospheric changes. We notice the same peculiarities as in Acute. The **large joints** are most liable to be affected. It is generally **Symmetrical,** but not always so. There is

the same tendency to **Shifting**, and the marked effects of **atmospheric changes.** The power of forecasting weather changes may be absolute. The appearances are **Swelling**, either Uniform or Diffused, presenting a rounded or **oval appearance.** The existence of any considerable Serous Collection, is a complication. **Stiffening** from adhesions of the Tendons, owing to Infiltration and from the Stiffening of the Capsule. The joint is always **painful**, and there is **Tenderness.** We do not find true Anchylosis or Crepitation from destruction of the Cartilages. They retain their vitality for years. With this contrast Rheumatoid Arthritis; nor do we find accumulations of Urate of Soda as in Gout. We have little spells of Acute Rheumatism brought on every now and then by exposure. The patient is feverish. The joints swell a little.

The **Condition** varies greatly. It depends on the severity of the attacks and the extent to which the Diathesis interferes with assimilation. We may have a plethoric, fat and well-nourished man. On the other hand, we find Chronic Rheumatics, who are morbidly sensitive, with relaxed muscles and skin, poor digestion and impaired energy. Patients may be both house and bed-ridden.

The **Diagnosis** is easy. Bear in mind Chronic Gout, Rheumatoid Arthritis and the joint troubles of Spinal Sclerosis. Gout and Rheumatoid Arthritis are easily excluded, and the *absence of ataxia* will exclude Spinal disease.

Prognosis is good as regards life, except the heart becomes affected. It is extremely uncertain as regards duration. There is a liability to acute exacerbations and to chronic recurrence.

Treatment is based on a careful study of the whole condition of each individual case. I. *General.* In one set of cases weight should be reduced and the muscular system stimulated. In others Cod-liver Oil, Iron and rest are indicated, building up the system by passive, not active measures. II. *Local Treatment* consists in attacking acute Rheumatism actively, by Rest, Counter Irritation and Sedatives. Swedish Movement Cure, attended with Friction, Kneading, etc., should be carried out carefully. Electricity is a powerful aid. The Joints must not be kept indefinitely at rest. The inflammation may extend to the nerves, and so Perineuritis be set up. III. *Remedies to antagonize the Diathesis.* We look to Diet and Regimen for this. The treatment by alkalies would be too long and depressing. Keep these for acute attacks. Potassium Iodide, or Sodium Iodide, Guiacum, Sulphur, and Saline Mineral Waters, either simply Saline or ferrugineous Salines, should be used continuously. It is not rare to have Gout and Rheumatism together. Colchicum, as increasing them, and the Urates, may be sometimes associated with advantage, and Lithia. IV. *Hygiene.* Study the residence, neighborhood, etc. These must be dry and healthy.

Gout *is a Specific Diathetic Disease, inherited or acquired, attended with a peculiar inflammation of certain joints about which are deposits of Urate of Soda, with varied and irregular constitutional symptoms.* It occurs in *Acute* and *Chronic* Forms. Of the latter, we see a great deal. We do not know in what the Diathesis consists, but it is a derangement of the ultimate processes of disintegration by which Nitrogenous matters are not properly elaborated and fixed in the system, but there seems to be a tendency to Hepatic and Renal Insufficiency. These organs exert on the organic elements of the blood peculiar influences. The Nervous System is largely engaged in presiding over the elaboration of Tissues, and it is involved in Gout. Influences which develop Gout are High Living, Sedentary Habits,

and Nervous Strain. Women present gouty symptoms toward the Menopause. An attack may be preceded by a disturbance of general health and Digestion. The Urine contains an excess of Urates. There is Lassitude, Disturbed Sleep, Depression of Spirits, or it may come on in the midst of good health. It begins generally in the ball of one big toe; more rarely in both. The part swells. Pain is horrible. The toe glossy and red. Sleep is impossible. The patient is restless. Then there is a Constitutional reaction and moderate fever ensues. The joint swells more and more, and then subsides. An attack may last from three to eight days.

Diagnosis. The history of the case, the absence of any injury, and the peculiar position of the pain are diagnostic. Its Duration is uncertain. The attack seems to do some people good. It is a vent for the ill-humors of their systems.

Treatment. For the relief of pain, give Opiates in full doses and apply local treatment. These must not check the pain suddenly. The patient may thus suffer more. We need protective and sedative liniments—Laudanum and Chloroform or Aconite. Cover the part with Cotton and Silk. The joint should be kept at rest. Some, however, get better by walking about persistently. In the early days, however, rest is required. We want to eliminate the poison. The following presents a combination of a Purgative and Specific action:

℞ Mass Hydrarg. gr. x–xv,
Pulv. Digitalis gr. v,
Ext. Colchici. gr. x–xv,
Ext. Opii gr. ii,
Quininæ gr. xx,
M. ft. Pil x. Give one every four hours.

With this we may give Saline Purgatives. Colchicum seems to have a tendency to eliminate the poison. It is an alterative diuretic. It has been much abused. It may irritate the bowels. Its administration must be watched. Or we may give alkalies as Bicarbonate of Soda and Wine of Colchicum. The purgative should be kept separate. After the attack is over treat the patient for Chronic Gout.

Chronic Gout expresses itself in many ways. I. It may be **Arthritic.** The tendency here is to the invasion of the small joints. In chronic Arthritic Gout a series of joints may be involved. The patient suffers with Dyspepsia and has certain idiosyncracies. Certain articles of diet bring on attacks. The Digestion in the interval is weak. The Urine shows urates, but the patient may appear well until an attack is brought on by exposure. This begins at twenty-five and goes on through life until we have a permanent deformity. Some patients, notably old English Squires, have been able to write on blackboards with the chalk deposits in their knuckles.

II. **Displaced or Irregular Gout** may occur in the Heart, Liver, etc. We have functional disturbances replacing Arthritic Gout. They simulate organic diseases of these organs. We may find Gouty Bronchitis, which will only yield to Gouty treatment. Such patients present more continued impaired health than those with chronic Bronchitis. This is also the case with Asthma. Others have attacks of Renal Calculi, *i. e.*, Nephralgia. There is a form of Irregular Gout which simulates many nervous diseases. It is Nervous Gout, or Lithæmia. We find an excess of Water in the blood. We have symptoms of wide-spread Nervous disease, Giddiness, singing, buzzing, whistling and roaring in the ears, attendant on this form of Gout. Sleep is restless and broken by bad dreams, or we may have Insomnia. There is Failure of memory and confusion of ideas. The memory becomes

faulty. We may fear Softening of the Brain. Changes of temper occur, and Brooding Despondency. Distrust of friends and of the affection of relatives. Patients become crabbed and irritable beyond description. Pains are felt in the arms. There is a sensation of disordered circulation. The arms go to sleep. Numbness is felt in the extremities. Chronic Meningitis, Spinal disorders, are all simulated. This displaced Nervous Gout is frequently met with in America. We may have a partial or total absence of arthritis, yet we find Heberton's Nodosities, *i. e.*, periosteal saturation of the urates. These swell up and become painful. They are very diagnostic. Even when these are absent, we find a tendency to periosteal thickening. The **Urine** has a brick-dust sediment, high Specific Gravity, an abundance of Urates, and sometimes free crystals of Uric acid. The complaints of these patients may be unceasing, yet they attain to old age.

Diagnosis. We may recognize Gout by the influence of treatment as exercise, food, hygiene, and certain drugs. Gout is an indolent man's disease, yet, it may occur among the poor. Here, too, the food has been bolted and not properly assimilated.

Treatment. The element of rest, relaxation, recreation, travel, abandonment of business, etc., comes into the treatment. We must bring the skin into a good condition. No law for the diet can be laid down. Many have pronounced Dyspepsia. The digestion is atonic. Sometimes a little dilute Alcohol will help it, yet, in general, it is bad for gouty subjects. Some take whisky and gin well, yet, cannot drink beer.

Drugs. Patients need Bitters and Mineral Acids as Nitric and Nitro-muriatic Acids. Some require Mercurial Laxatives. Every ten days we may give a mild Mercurial Laxative. Dilute saline beverages are useful, and Mineral Waters as Vichey, Carlsbad, Apollonaris, etc. Courses of Colchicum, Alkalies, and Iodide of Potassium are indicated in smaller doses than in Acute cases. The Treatment must cover years. The patient will depend on his diet and regimen for his health. Drugs are only for out-breaks as they occur. Failure of the Nervous System is a common underlying cause. If the brain is over-taxed, the Diathesis may make its appearance.

Rheumatoid Arthritis, Rheumatic Gout, or Arthritis deformans, are specific forms of Arthritis due to an unknown Cause, differing from Gout and Rheumatism, attacking *all the joints*, and causing deformity and destruction. It is not a Diathetic Disease. Some have this Arthritic Tendency when the System is depressed by harassing cares, financial losses, etc., too frequent child-bearing, loss of sleep. It is more common in Women.

Morbid Anatomy. The Synovial Membrane of the Joints is thickened. The liquid is excessive in amount, and finally the membrane ulcerates. The Articular Cartilages erode and waste away. The Tarsals may be destroyed. The bones may become eburnated at their ends. Around their Articular Surfaces are Ridges and Spicules of bone. The joints become immovable. As the disease progresses the Tendons are dislocated. The muscles waste.

Symptoms. Generally there is previous Failure in health. The hands are particularly liable to be attacked. The Joints of the Upper and Lower extremity are most seriously affected at first. Later on all alike are involved. Local Tenderness is excessive, and there is pain on movement. There is a marked tendency to Anæmia. Some patients are fleshy all the time. Neuralgic Suffering is common. The pain is radiating and the patient frequently hysterical and despondent.

Anatomical Changes. The joint swells from accumulation of the liquid, and there are swollen ridges. In late stages there is a peculiar

crackling-like sound in the joint on movement. After a time the hand assumes a claw-like appearance.

Diagnosis. We note the progressive character of the Disease. While the Disease is in progress it is not affected by Atmospheric changes, nor are there Heart complications, as in *Rheumatism*. 2. It is uninfluenced by Diet, and the kidneys are not involved as they are in *Gout*.

Prognosis. The course of the disease is fluctuating, with exacerbations. It may last from five to forty years. Finally the patient is confined to his chair or bed, and must be waited upon. Death occurs from Exhaustion or Intercurrent Disease. The prospect of cure is poor unless it be begun early.

Rickets *is a "constitutional diathetic disease, due to errors in diet, associated with lesions of the Epiphyseal Cartilages, leading to deformities, with a tendency to chronic catarrh of mucous membranes and changes in the Liver and Spleen."*

Causes. It usually is found in children before the fifth year, and in those brought up on unsuitable food. The child may have been nursed too long after the milk has become weak. The mother need not herself be sickly.

Anatomical Changes. The Epiphyseal Cartilages are involved. There is a deficiency in the amount of Bone Salts. The cartilages are the seat of Inflammation and Hypertrophy. Softening follows. Pressure on the part squeezes the Cartilage until it projects and deformity is thus produced. If the disease is not arrested this Deformity may be permanent. If taken in time it disappears altogether. The condition should be detected before the bone lesions are manifested.

Symptoms. The child is ill-nourished, white, flabby, and weak. Dentition is often disturbed. Intestinal Catarrh and Catarrhal Diarrhœa may occur. The Stools are loose, deficient in bile, and offensive. Attacks of Bronchial Catarrh are frequent, indicating the morbid sensibility of the Mucous Membrane. There is a tendency to enlargement of the Tonsils. There is a proneness to nervous symptoms, Local Spasm of the Larynx, "False Croup" or "Laryngismus Stridulus." These General Symptoms may exist sometime before Rickets shows itself. Later on the child sweats much about the head and neck during sleep. He is slow in learning to walk, makes no effort to do so. The limbs are sometimes tender. After this the child is restless at night. The Temperature is not much elevated. Later still we find boney swellings, beaded knots along the cartilages of the ribs, Radius and Ulna. They may also appear on the Cranial Bones. Ossification may be incomplete in certain spots. As the disease progresses the legs become bowed. The ribs being soft, a chicken-breast appearance is developed. The ribs bend and a groove is formed on each side of the Sternum giving rise to a Rostrated Thorax. The Constitution suffers. The Catarrhal attacks continue, and amyloid Degeneration of the Liver and Spleen with enlargement takes place.

Prognosis is favorable, if it is recognized early. The deformity of the limbs can be corrected by apparatus. If the disease advances, there will be an intercurrent cachexia, the liver and spleen taking on amyloid degeneration and the child will die.

Diagnosis is based on—1. The apparent *causeless mal nutrition*. 2. The *repeated catarrhal attacks* of the Mucous Membrane. 3. The *restlessness* and *sweating* of the head and neck. 4. The child evinces *tenderness on being handled*. 5. Is *pale* and *soft*. 6. *Backward in walking*. 7. Has *enlarged tonsils*; and 8. Is *Croupy*. These symptoms alone should excite our suspicions. If, on investigation, we find that the child has nursed too long, treat the case as though it were rickets. It is better to err on the wrong side.

Treatment. The correction of the diet is the main thing. If the mother be unhealthy, remove the child from the breast. Study the diet in the light of the Diarrhœa present. Use careful Inunctions of Oil. Pay attention to the protection and stimulation of the skin, and to Ventilation. Generally, cases are among the poor and are difficult to control. In these, it is best to send the child to some Public Charity. Internally, give Salts of Lime and Cod Liver Oil as a specific. To control the diarrhœa give Bismuth, Pepsin, and Chalk Mixture. To improve the Digestion, give bitter Tonics. In order to obtain any good effect, a long course of Cod Liver Oil and Salts of Lime is absolutely necessary.

APPENDIX.

Syncope is a loss of consciousness due to defective supply of blood to the brain from heart failure.

Symptoms. In lesser degrees it is merely a feeling of faintness. It is preceded by dizziness and a feeling of sinking. The patient may, however, have no warning, but go down as in an Epileptic fit. The face is extremely pale. There is Dilatation of the pupils and coolness of the Extremities. The action of the heart is weak and may be suspended. Generally, only the radial pulsation is absent—the heart is too weak to send the blood forcibly this distance. If the Heart is weak, or the Brain badly nourished, Syncope may result in Death. If there is Reaction the color returns to the cheek, the patient regains consciousness. Sighing breathing takes the place of suspended respiration. After an attack, patients are always weak, and there is a liability to their recurrence.

Causes. It may be **Emotional**, *e. g.*, from the sight of blood. This is especially the case in Anæmic and Neurasthenic patients. Sudden and Exhausting **Discharges**, *e. g.*, flooding in child-bed. Loss of blood from **Piles.** It may arise from **Cardiac Weakness** in Fatty Degeneration, Dilatation, or Aortic Stenosis.

The **Diagnosis** is generally easy, but we are apt to confound it with *Petit Mal.*

Prognosis. Fainting is by no means a simple thing. Sudden death *may* occur.

Treatment. Patients must be carefully looked after until the reaction sets in. The head should be lower than the heels. Let the patient have plenty of fresh air. Apply Cold to the surface of the body. A Fan may be used. The pungent odor of burning feathers or of Ammonia will often reflexly arouse the patient. Brandy, Hoffman's Anodyne, and other stimulants should be given. We may use hypodermic injections of Ether, Alcohol, and Digitalis to rouse the heart's action. In extreme cases artificial respiration may have to be resorted to in order to save life.

Arteritis *is an Inflammation of the coats of the Arteries.*

Causes are—1. Certain **constitutional diseases**, as Gout, Rheumatism, and Syphilis. 2. **Habits.** The excessive use of alcohol. 3. **Age.** It is commonest in the very old. When it occurs in the young it is probably Syphilitic. 4. **Strain** and injuries to arteries which are exposed, *e. g.*, the Radials.

Seat. It affects the whole arterial system. It may, however, be found in the Coronary Arteries even when other arteries do not exhibit any traces of it. It is frequently observed in the arteries at the base of the brain making up the "*Circle of Willis.*"

Morbid Anatomy. We have an inflammation of the Sub-Serous Coat with an inflammatory product of a low grade which occurs in patches. The

history of the case differs according to the age and condition of the patient. The arteries may be infiltrated with a calcareous material, and stand out prominently like pipe-stems. In some cases we have a fatty degeneration and disintegration. An atheromatous ulcer may form. The detritus from this may be carried off and prove infectious, but it may be harmless in itself and only act mechanically. The effects of this process are:—1. A **hardening** and rigidity of the Arteries. 2. A **thickening** of the walls and consequent **obstruction** to the blood current. 3. **Weakening** of the walls ensues owing to the tissue being starved. Hence we have **Anæmia** and **Fatty Degeneration.** 4. **Emboli** are formed, and we may have **Apoplexy.** Arteritis finally leads up to Aneurism or Cardiac Hypertrophy.

Symptoms. We have Local Signs of hardening. The artery resists pressure. It is larger than normal. It may pulsate with undue force. There is dull pain and tenderness on pressure. This pain radiates along the nerves. In the smaller arteries tenderness is a very rare symptom. We recognize then, first the hardness and enlargement. Next, we note that the arteries have a beady, nodular feeling. The recognition of this condition throws great light on other diseases. It explains the probable condition of the internal organs fed by these arteries. It favors serious secondary changes. We find it associated with Fatty Degeneration and Angina. In the brain, with Softening and consequent Apoplexy.

The **Diagnosis** is made by examination.

The **Prognosis** is usually unfavorable.

The **Treatment** should be begun at an early stage. It will depend on the Cause. Rest is required for the arteries. We are guided by their condition as to the amount. Absolute rest may be necessary. By early detection we may avoid Aneurism by enjoining strict rest. The Blood Pressure must be kept down by Veratrum Viride, if necessary. All excitement must be avoided. When the artery is tangible we may apply counter-irritation along its course with the Galvano Cautery. If there is a history of Syphilis use Potassium Iodide and Mercury. If there is a gouty diathesis, Potassium alone will be necessary.

Laryngismus Stridulus *is a condition attended with Spasm of the Glottis.* It should be considered in connection with Laryngitis and Croup.

Causes. Age. It occurs before the first dentition generally. **Malhygiene.** It is very common in **Rickets.** The bones of the cranium are involved, and yield to pressure. **Enlarged Glands,** *e. g.*, a non-involution of the **Thymus.**

Symptoms consist in the recurrence of spells. They are spoken of by nurses as "Holding breath spells." The spasms relax with a loud whooping noise. The child may be playing with his toys, suddenly can't breathe, looks anxious, and runs towards its mother. It puts its hands to its throat. A spasm may last till the child dies abruptly. These spasms may occur at long intervals of days or weeks. Their frequency varies much. They vary in intensity in the same case. Apart from these spells there are no characteristic symptoms. Any other symptoms there may be belong to the Disease causing the condition.

Duration is entirely indefinite. It may last for months gradually passing away as soon as its source is removed.

The **Diagnosis** is easy. Its appearance is like Petit Mal, but there is no unconsciousness at all. The child bursts into tears, partly reflexly and partly from fright.

Prognosis is favorable yet death may occur, and parents should be forewarned of such a possibility.

Treatment is principally hygienic. If the surroundings are bad remove the child. Correct the food, residence, change the wet-nurse, etc. If the child is Rachitic or Syphilitic these taints must be removed. If Dentition is the cause the eruption of the teeth must be carefully watched. To prevent spells give remedies adapted to strengthening the Nervous System, Iron, Cod Liver Oil, and the Bromides, especially Ammonium Bromide which is highly volatile and excreted by the breath. When an attack occurs, if there is any warning, order Nitrite of Amyl, and instruct the nurse as to its administration. Sometimes we cannot secure its inhalation, yet if we press a handkerchief against the mouth moistened with it, it may break up a spell. It is well borne by children, and may be diluted with Sulphuric Ether. Sedative applications may be made externally to the Larynx. Iodine has some effect, and may be applied externally.

Hay Fever may properly be brought under the head of Asthma, because the most troublesome symptoms are often Asthmatic. The names of Annual Cold, June Cold, August Cold, Rose Cold, Hay Asthma, Hay Fever, are all applied to this group of affections. The name Hay Fever may be taken to cover them all. These affections possess these peculiarities. They recur at certain periods each year, and present symptoms of marked Catarrhal irritation of the respiratory tract with Asthma. They come at different seasons to different persons, but generally at fixed periods; recurring at the same hour of the same day in successive years. The limits are late Spring and early Fall. They are induced in different individuals by very different conditions. In some, by the pollen of flowers; in others, it is a climatic, seasonal and atmospheric affection solely. There are fluctuations at some times, unexplainable at others, due to the general ill health of the patient. In the intervals, patients may be perfectly well. Far more frequently, however, they present evidences of Catarrh more or less local. Most commonly this is nasal, and associated with thickening of the mucous membrane in patches, or it may be laryngeal, bronchial or tracheal.

The **Symptoms** are in some, chiefly catarrhal. The eyes and nose run water. There is irritation of the Fauces and smarting of the nasal cavities, accompanied by Laryngitis, Trachitis or Bronchitis. The system is disturbed. There may be a slight degree of fever. The appetite is impaired. An attack may bring on a great deal of debility. The above is the usual Catarrhal type. We may have, in addition, a Spasmodic element. There is in a majority of cases, more or less Asthma. It occurs day after day and night after night. There may be constant Dyspnœa, and only occasional Asthma. Attacks vary in duration and severity.

The **Diagnosis** will probably not be made the first year. Yet severe Catarrh in mid-summer, should make us suspicious. It rarely comes on after middle age. It will not yield to ordinary remedies. As soon as another year comes, you recognize its character by its recurrence.

Prognosis is altogether good as regards life. It may exhaust patients frightfully. It is very serious as regards tendency to recur, and the danger of Chronic Bronchitis or Vesicular Emphysena being grafted upon it. The Prognosis is not so serious as it was in past years, owing to the recognition of the influence of chronic nasal lesions and the effect of climate change.

Treatment is very unsatisfactory during the paroxysm, except we can secure change of climate. A journey of a few hours may relieve the symptoms. The assertion that insufflation of large quantities of Quinine will cure it, is without foundation. Still it is proper to use it both internally and externally. Change of climate is the only treatment. Some are benefitted by the sea-shore; others by a mountain. Some are better

when there is no vegetation. There are some spots in the country and in various parts of the world which are especially popular as resorts. It is curious to note how many intellectual people are affected. In the interval, eradicate every local catarrah and every trace of Reflex irritation. The removal of nasal hypertrophies will not cure every case. In some, it will be followed by absolute cure. In other cases, though very great relief is given, it will return, showing that the nervous system enters largely into the attack, and finally no good may result at all.

Since there are areas of extreme irritability when it is not feasible at once to change the residence, we should try to relieve our patients temporarily by the instillation of a few drops of a solution of Cocaine (gr. iv to f℥i) or by the introduction of Gelatin and Cocaine bougies into each nasal cavity and allowing them to melt slowly. This may afford prompt relief, but it is only temporary.

COMPARATIVE VIEW OF THE VARIOUS FORMS OF KIDNEY DISEASE.

Name of Disease.	*Synonymns.*	*Macroscopical Appearance of Kidney.*	*Result of Microscopical Examination.*	*Effect on the Amount of Urine.*	*Specific Gravity.*	*Quantity of Albumin.*	*Abnormal Constituents, Casts, etc.*
Acute Congestion.	Active Congestion.	Enlarged and congested. Dark red, with vascular points, and sometimes minute ecchymoses.	Cloudy swelling of the Epithelial Cells.	Diminished. May amount to Suppression, or Anuria later on.	High.	Considerable.	Red Corpuscles, Hyaline Casts. Epithelial Cells, and perhaps a few blood casts.
Chronic Congestion.	Passive Congestion. Cyanotic, Induration, Pig backed Kidney(Formad).	Large, heavy and hard. Coarsely granular, friable. Presents a bluish induration. Capsule non-adherent. On section Cortical and Medullary substance are bluish red. The Pyramids darker than the Cortex.	Parenchyma and interstitial substance generally unchanged at first. Later on walls of tubes are thickened, intertubular connective tissue increased, and distention of minute vessels follows.	Diminished.	High.	Moderate.	Red blood Corpuscles. A few hyaline casts and epithelial cells. Transparent oblong Mucous Cylinders.
Acute Bright's.	*Acute* Parenchymatous, Catarrhal, Desquamative, Tubular, Scarlatinal, Croupous, or Diffuse Nephritis.	Enlarged and heavy. Surface smooth. Capsule injected, and easily removed. On section very bloody. Cortex is coarse, and Pyramids deeply red. The Superficial Veins distended.	Capillaries distended. Epithelial Cells are affected by Catarrhal Inflammation and cloudy swelling. Tubules are filled with red and white corpuscles, Epithelial, Blood, and Hyaline Casts.	Greatly diminished. May be almost*nil*. Yet micturition may be frequent	High, 1025-1040.	Abundant. May solidify on testing.	Red blood Corpuscles. Epithelial Cells. Bloody, Epithelial, Hyaline and granular casts.
Chronic Catarrhal Nephritis.	Desquamative, Parenchymatous, Tubular, Diffused, Nephritis. Albuminuria. Large White Kidney of Bright.	Swollen, heavy, friable, and less consistent than normal. The Capsule unaffected. Strips off easily. Surface pale and mottled. On section Cortex is enlarged, granular, and has a pale white, blotchy look. Pyramids streaked, and of a dark red color.	Epithelium is swollen and desquamated. Tubules filled with detritus of altered, cloudy and granular epithelial cells.	May be normal. Usually diminished.	Higher than normal, generally.	Considerable amount.	Epithelial, Granular, Large and Small Hyaline and Fatty Casts.
Chronic Interstitial Nephritis.	Granular, Contracted, Cirrhotic, Hobnailed, Small red, Gouty Kidney.	Reduced in size and weight. Consistency increased. Capsule thick, opaque, and closely adherent. When cortex is torn off, substance of Kidney comes with it. Hobnailed appearance. Cysts form from pressure on Malpighian Tufts. Cortical substance diminished, reduced to a narrow rim.	Interstitial Connective Tissue greatly and irregularly increased. The Epithelial Lining of the Tubes is atrophied. Tubules healthy in some places, degenerated in others. May be partly obliterated. Changes in the pyramids are trifling.	May be excessive or Polyuria.	Low, 1010 about.	Mere trace. May be none.	May be absent. A few Hyaline and Granular Casts.
Amyloid Degeneration.	Lardaceous, Waxy, Albuminoid, Degeneration.	Larger than normal, smooth, anæmic, and friable. On pressure the finger may go right through. Capsule unaffected. Strips off easily. Cortex swollen. Translucent Malpighian Tufts are visible. Cysts may be present.	Walls of straight intertubular arteries and of capillaries of Malpighian tufts are infiltrated with an amyloid material. The tubes contain Hyaline-like cylinders which react with Iodine.	Very copious.	Low, 1005-1015.	Excessive.	Very few Casts. Hyaline or Waxy often longer and broader than in Interstitial Nephritis. May give Iodine reaction.
Fatty Degeneration.		Enlarged, soft, flabby and friable. Pale yellowish color. On section greasy and fatty. Capsule easily detached. Cortical substance is swollen.	Cells uniformly distended with oil. The glomerules are unchanged.	Normal.	About normal.	Generally present.	Fatty Casts. Free oil globules may be present.

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